



Gravity Gran Prix

Welcome to Soap Box Derby Racing. We think you'll find that this is a fun, cheap, and safe way to build and race your own car.

This is your packet of materials for the Gravity Gran Prix. In addition to this cover sheet and checklist, it contains the following materials:

Registration form

Rules

Inspection Form (which you will take to the preliminary inspection as well as to the race)

Race procedures card with map, which you should take to the race for reference

Driver's Checklist 2016

- Registration and Entry Fee** Due Friday, Sept 2, 1:00 pm
Registration form in packet, \$15/car + \$10 per driver
- Preliminary Inspection** Thursday, Aug. 25 7:00 pm Peteetneet Parking Lot
Rules and inspection form in packet, bring inspection form to the preliminary inspection
- Inspection & Weigh In, get badge** Saturday, Sept. 3 2:00 pm 500 E 100 S
Take procedures card (included in this packet) to track, Follow instructions on it
- Driver's Meeting** 2:45 pm
At the ramp, must attend to be able to race
- Race**—Line up cars at top of track, follow instructions of pit steward
- Awards** After the race



Registration Form

Preferred
Car
Number*

2016

Gravity Gran Prix

Owner Name _____ Date _____

Phone _____ e-mail _____

**Numbers will be granted on a first-come first-served basis*

Drivers

Please list below the name of each participant under the class he/she will be racing in. Fill out one form for each car. Each car can have up to three drivers. **Entry fee: \$15 per car + \$10 per driver.**

PARTICIPANTS MUST BE REGISTERED BY FRIDAY, SEPTEMBER 2, 2016.

By signing the form below you agree to the terms and conditions in this waiver:

Waiver and Release of Liability

The undersigned does hereby release, waive, and forever discharge Payson City, its assigns, employees, agents or representatives from and against any and all liability for any harm, injury, damage, causes of action or costs and expenses of any nature for which Participant may have or which may hereafter accrue to the Participant, arising out of or related to any loss, damage, or injury, that may be sustained by Participant in conjunction with Participant's involvement in this activity.

Racing involves in inherent risks that may include death or injury. Participant has signed this Release in full recognition and appreciation of the dangers, hazards and risks involved with the Activity.

Participant certifies that she/he is physically fit and in good health and has not been advised otherwise by any qualified medical personnel. Participant is not aware of any health-related reasons or problems, which would preclude or restrict Participant's ability to take part in the Activity.

| <u>Class</u> | <u>Driver Name</u> | <u>Age**</u> | <u>Signature of Responsible Party</u> | <u>Fee</u> |
|--------------|--------------------|--------------|---------------------------------------|------------|
| Colt | _____ | _____ | _____ | 10.00 |
| Mustang | _____ | _____ | _____ | 10.00 |
| Stallion | _____ | _____ | _____ | 10.00 |
| | | | Car | 15.00 |
| | | | Total | _____ |

**If under 18

Turn in completed forms with the entry fee to the Salem City Offices.

| | | |
|---------------------|-----------------------|-----------------|
| For Office Use Only | | |
| Date _____ | Amount Received _____ | Signature _____ |



Official Rules

2016

Gravity Gran Prix

Eligibility and Registration

The 2016 Li'l Rascals Gran Prix will be held Saturday, September 3, 2016, at 3:00 pm. The race is run just west of Peteetneet School 500 East. Inspection and weigh-in begin at 2:00. Flag ceremony will take place at 2:50 and the first racers will leave the ramp at 3:00 sharp.

PARTICIPANTS MUST BE REGISTERED BY FRIDAY, SEPTEMBER 2, 2016. Register with Frank Leany. Registration fee is \$15 per car and \$10 for each driver. Every car must have a unique number given upon registering. You may use any number you choose as long as it isn't being used by a car that is already registered.

Competitors are divided into three weight classes. Age of the participant is at the discretion of the parent, but suggested guidelines are:

Colt class: 9-13 years; Mustang class: 13-17 years; Stallion class: 18 years and older.

A single car may compete in multiple classes (in the case of multiple children in one family, for example) provided it meets the weight requirements for each class in which it is competing. (All ballast must be bolted or otherwise securely fastened.)

The race is open to everyone, regardless of age or gender. Non-residents of Payson City are welcome to participate. Sponsors are allowed and company names, logos, etc. may be displayed on the cars.

General Information

Racers are to be completely gravity powered. No starting or propulsion devices of any kind are allowed. Driver must be in a seated position. No head-first configurations are allowed. Reclining to any degree is an acceptable configuration as long as driver visibility is not impaired.

Some hints and guidelines for building soap box derby cars are available on the internet. Tips and links are available at Leany.com. Be aware, however, that this event is in no way affiliated with The All-American Soap Box Derby and rules and specifications for those events do not necessarily apply.

A preliminary inspection will be held August 25th at 7:00 pm at the Peteetneet parking lot. Plan to attend this inspection to avoid any surprises or disqualifications on race day. If you cannot attend, contact Frank Leany to make arrangements to have your car inspected well before race day.

Any questions, comments, or requests for clarification should be directed to Frank Leany at 358-1028 or by e-mail at fleany@gmail.com.

Vehicle Specifications

| | Minimum | Maximum |
|---------------------------------|-----------------------|------------------------|
| Track width (outside of tires)* | 24 inches | 36 inches |
| Vehicle height | 3" ground clearance | 60 inches |
| Seating surface height | (3" ground clearance) | 16" above road surface |
| Total vehicle length | 72 inches | 96 inches |
| Wheelbase | 45 inches | 72 inches |
| Vehicle Weight | | |
| Colt (8-12 yrs)** | - none - | 275 lbs. with driver |
| Mustang (13-17 yrs) | - none - | 340 lbs. with driver |
| Stallion (18+ yrs) | - none - | 400 lbs. with driver |

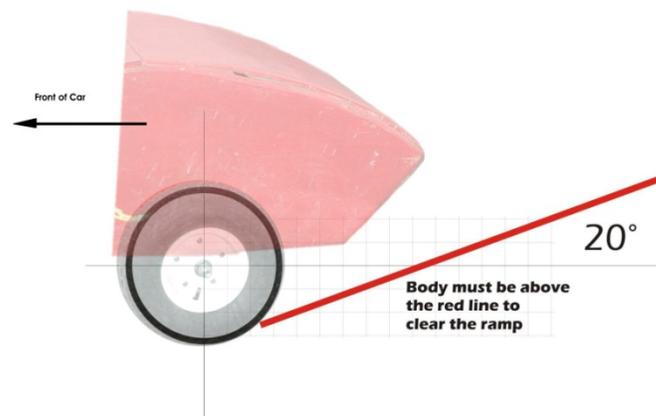
*Width of body cannot project beyond maximum width

**Colt class racers will be started lower on the ramp to reduce their speed

All weight must be bolted or otherwise securely attached. No loose ballast is permitted.

Cars may be made of any material. Any metal frame elements that extend beyond the wheels must be properly blunted with a cross bar to prevent piercing in the event of a crash. Sheet metal on the body is okay. Axles and components may be steel.

Road clearance must be no less than 3". To clear the ramp the ends of the car must be above a line 20° degrees with horizontal from the wheel centerline. Car must have 4 wheels and all four wheels must be in contact with the track at all times.



Cars will be towed up the ramp after each race, so a tow hook (eye bolt) should be provided for the tow strap. The hook must meet the clearance requirements outlined above.

To share ideas and techniques for build a derby car, we will hold clinics and tech nights. We will build some rolling chasses to help new racers get started. Visit Derby.Leany.com for updated details.

Wheels

This is a spec wheel event. All racers must run the specified wheels. Wheels are Harbor Freight pneumatic tires 13" x 4" with integral bearing wheels. The Harbor Freight part numbers changes from time to time, but it is the wheel pictured below:



Wheels fit on a 5/8" axle. A 5/8" bolt 4-1/2" long is just the right size to go through the hub. Wheels must have some sort of locking arrangement on the nut such as a locknut or an additional nut.

Wheels may be trued, balanced, etc, but no material may be removed from the wheels other than that necessary to balance. Wheels may be lubricated, but no modifications to the bearings are allowed.

Brakes

All vehicles must be equipped with brakes that contact the rear tires. Brakes must be able to completely stop the tire. The driver must be able to steer while braking. Braking tests will be conducted at the inspection to ensure that they are adequate. Cars without adequate brakes will not be allowed to race. Hand brakes are discouraged. Consideration will be made for those with physical limitations.

Steering

Steering must be positively controlled. Driver must be able to steer with one hand. Pivot axle steering must have limiters that prevent the car from turning a radius tighter than 15 feet. Careful consideration should be given to the steering ratio (angle of steering wheel turn to angle of front wheel pivot) to ensure that the steering is not too sensitive.

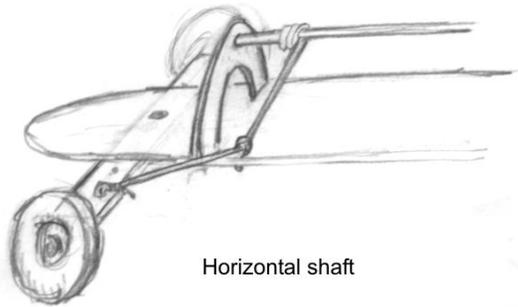
Attachment points for the steering must be positively secured along the axis of force of the cable. Screw in eyebolts will only be permitted into solid wood—not laminate or pressed wood.

Rope pull steering is allowed **ONLY** with a foot brake. Driver must demonstrate he can control the car while stopping. Foot steering is not allowed. Cable wind steering (a cable is wrapped around a cylinder that pulls on the axle as the shaft is turned) is recommended as an easy way to positively steer. Tiller steering is discouraged, especially if the car is equipped with a hand brake.

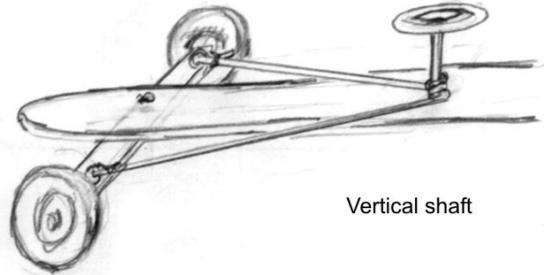
See attached detail for information on steering.

Soap Box Derby Steering Systems

Cable Wind Steering (recommended)

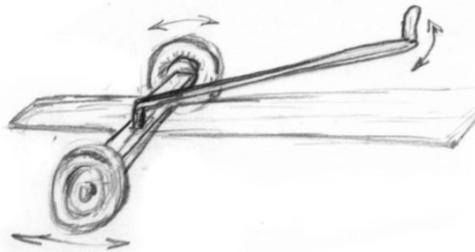


Horizontal shaft

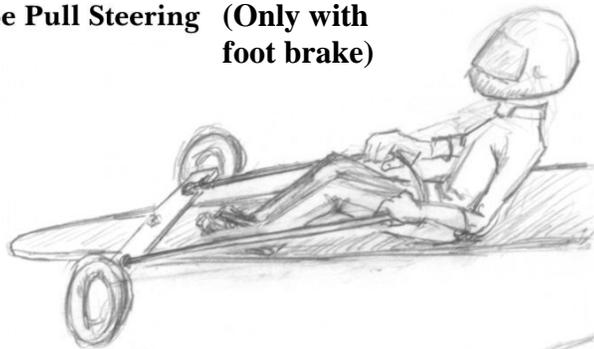


Vertical shaft

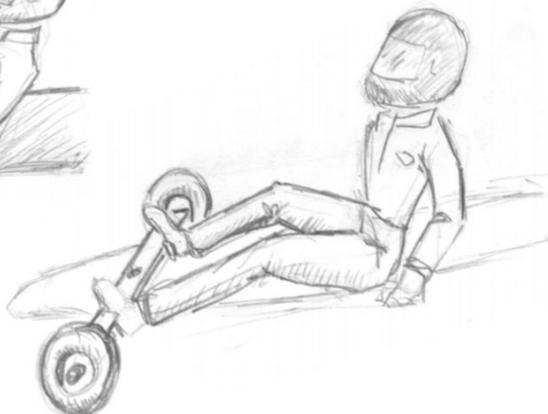
Tiller Steering (discouraged)



Rope Pull Steering (Only with foot brake)



Foot Steering (not allowed)



Safety

All drivers must wear an approved helmet (DOT, Snell, etc.). Bicycle helmets are not allowed. Cars will have full floors and should have some body structure to prevent the driver from accidentally contacting the pavement. The vehicle must not have any sharp projections, loose parts or edges that might pose a safety hazard. All ballast must be securely fastened and cannot move, accidentally or with driver intervention, during the race. Anything inside the cockpit that could injure the driver in the event of a crash should be padded. Seat belts are not required.

Care should be taken to ensure that the center of gravity of the vehicle is as low as possible. Maximum height of the seating surface is 16" above the road surface.

In order to maintain the safety of the event the race committee may impose additional requirements as conditions warrant.

Spirit of Fair Competition

The objective of this event is to provide fun for everyone regardless of resources. To that end the rules strive to provide maximum safety and fair competition with the fewest requirements possible.

As issues arise that are not specifically addressed in the rules the racing committee will pass judgment to maintain the spirit of the rules. If you have a question about whether something is appropriate, *ask*. A phone call now could prevent a disqualification at inspection time. As clarifications are made they will be applied universally to all participants.

Inspections

A preliminary inspection will be held at 7:00 pm Thursday, August 25, 2016, in the parking lot by the Petetneet School. Bring your inspection sheet (included in this packet) to the inspection.

The purpose of this inspection is to give the participants time to apply any modifications that may be required. Helmets will also be inspected. No one will be allowed to race with a helmet that is not Snell or DOT approved.

Final inspection will be performed at 2:00 pm on race day. Winning cars in each heat may be inspected after the heat to ensure that they conform to the rules.

