

# Tech Tip #1

## Optional Weights (Provided by Others)

### General Requirements

1.1 The car may be increased to the maximum weight of 200 pounds (including the driver, car and Z-Glas® wheels) by the addition of weights. The additional weight must be securely bolted through the floorboard and pass all requirements of the official inspection. There are two types of weight:

- 1) Adjustable Weight
- 2) Fixed Weight

1.2 Fixed and adjustable weights are available for purchase from the International Soap Box Derby, Inc.

1.3 Weight may consist of wood or metal materials. Weight in the form of angles, channels, tees or other structural shapes are not permitted. If bar bell type weights are used, the large center hole must be filled or a dowel rod must be used until the weight fits securely on the weight 5/16" bolt.

1.4 If 10 or less pounds of weight are used in a car, all of the weight must be adjustable.

1.5 If more than 10 pounds of weight is used in a car, a combination of fixed and adjustable weight is permitted. It's recommended that at least 10 pounds of the weight must be adjustable (Ex.: 3-two pound, 3-one pound, and 2-eight ounce or any other combination).

1.6 Weight may not be located between the original holes of the foot brace and the brake pedal back to the steering pulleys as shown in Photo #1.6.

1.7 A 1/8" clearance must be maintained between the weights, shell, axles, stabilizer assembly and the weight-free zone.

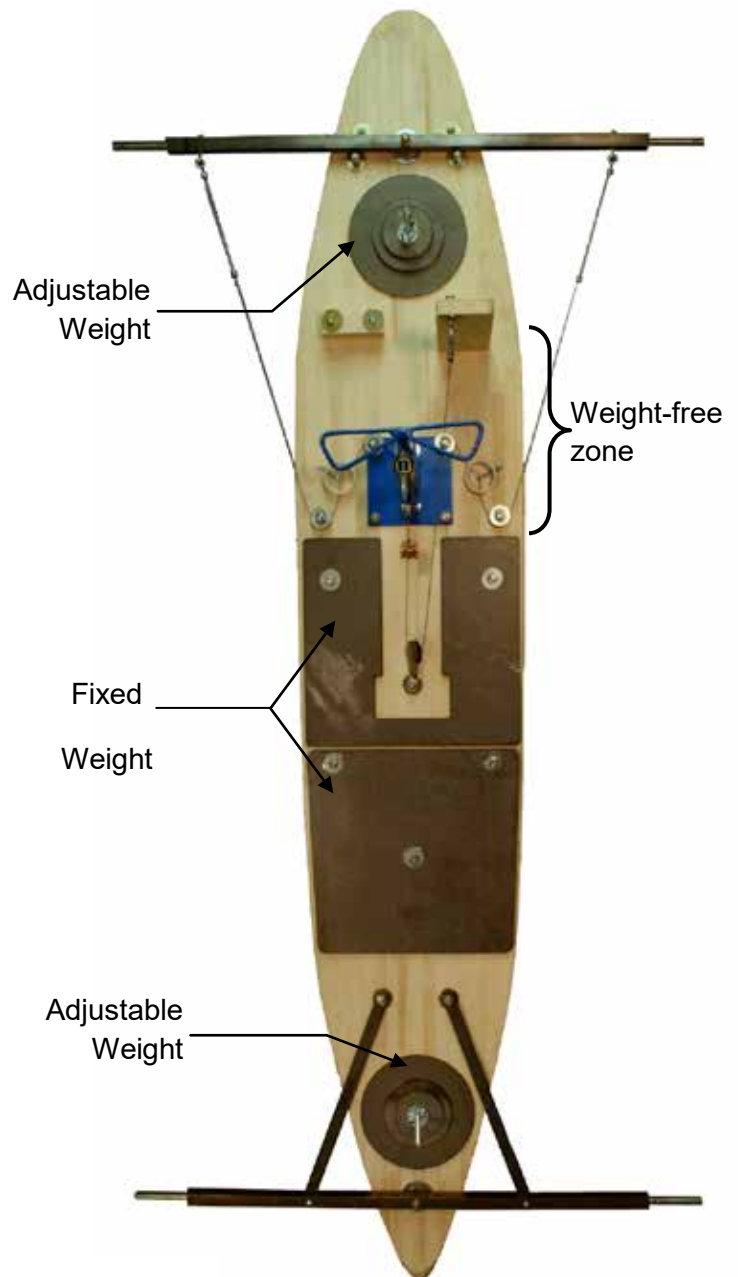


Photo #1.6

# Tech Tip #1

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- 1.8 All weights must be easily removable with adequate bolt clearance. Weights must not:
- 1) Disconnect or remove any hardware components
  - 2) Conceal any components
  - 3) Be permanently attached to the car
  - 4) Be threaded on the weight bolt
  - 5) Be poured into the car
  - 6) Touch the side or other components of the car
  - 7) Be chained to the car
  - 8) Be suspended. No cushion (sponge, rubber, springs, etc) or other material may be used between the weights or the weight and the floorboard.
  - 9) Be cantilevered or bowed (must be flat).

- 1.9 Weight materials must be painted and the weight of each piece clearly marked.

## Adjustable Weights

- 1.10 Two locations are dedicated for the adjustable weight. The bolts for these locations were installed in Step Nine. These two bolts are the only location that adjustable weight will be placed. See floorboard legend. Adjustable weight height is limited only by the length of the bolt. The size of the adjustable weight is limited by the required 1/8" clearance to the shell, axles and stabilizer assembly and/or cannot exceed 12" lengthwise. See Photo #1.10

All weight must be placed inside the car on top of the floorboard.

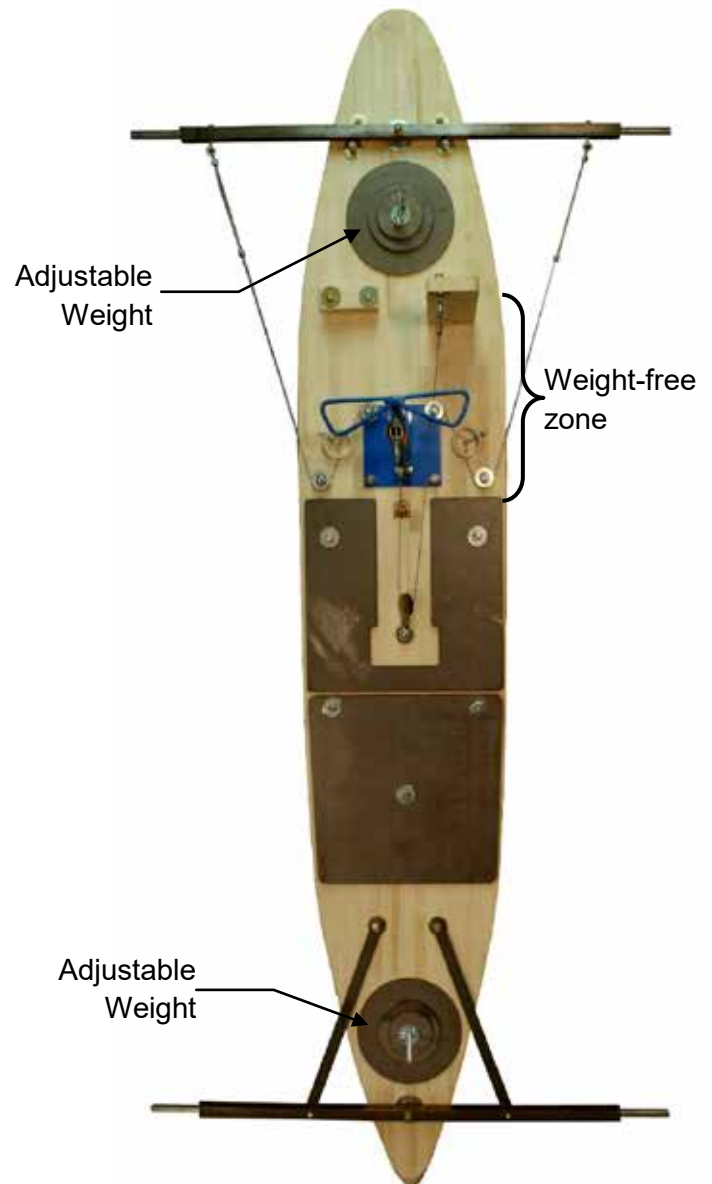
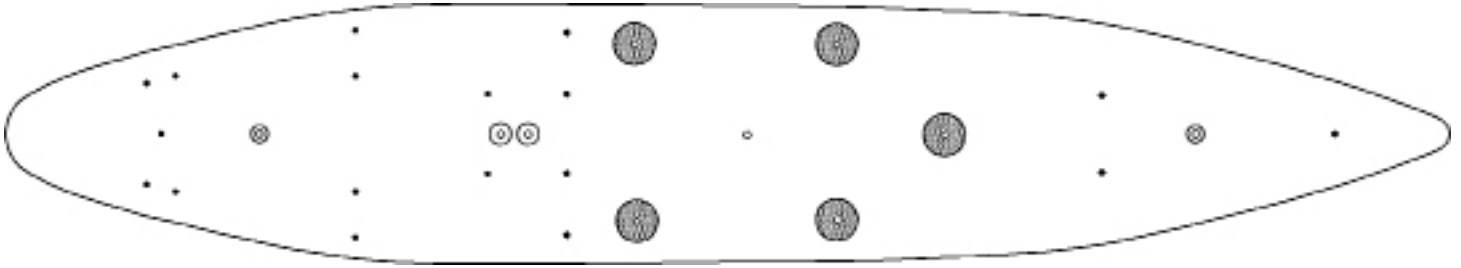


Photo #1.10

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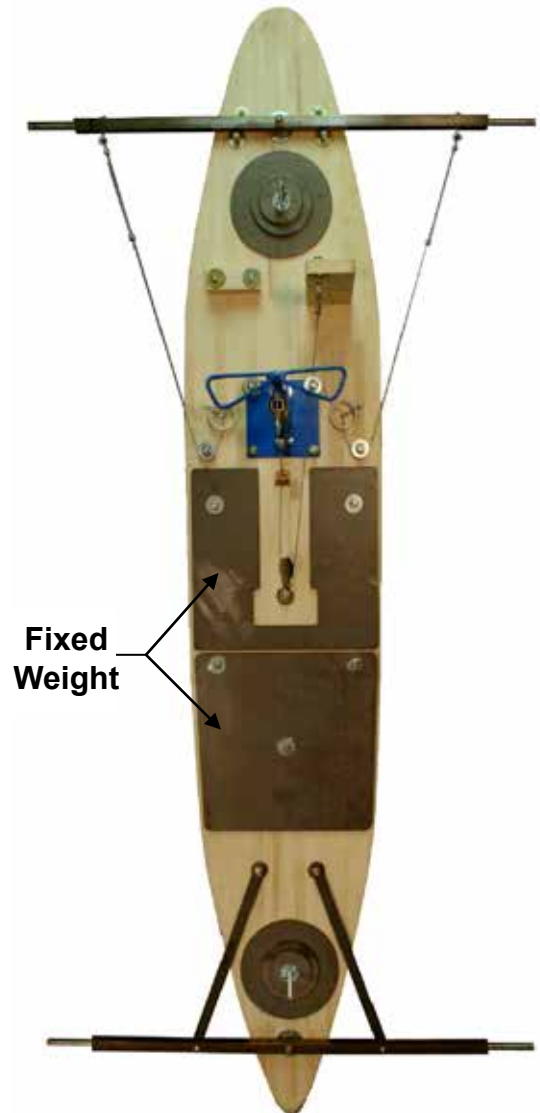


**Fixed Weight Bolt Installation  
(Legend Area Highlighted)**

- 1.11 Five bolt holes in the center/seat location of the floorboard are dedicated to fixed weight only. These five bolt areas are the only location that fixed weight may be anchored. See legend above for location of holes. Any combination of bolt locations may be used, but each weight must be secured by a minimum of one bolt. See Photo #1.11.
- 1.12 Fixed weight must not exceed a maximum height of 1-1/2" above the floorboard or exceed a 12" lengthwise dimension. Weight must be secured to prevent shifting or any type of movement with a 5/16" bolt, 5/16" x 1-1/4" fender washer and a 5/16" nut (provided by others).
- 1.13 No acorn nuts permitted
- 1.14 Added weight in the form of bars, plates or flat shapes are permitted but must not exceed 12" lengthwise, must stack evenly on each other in the car, and must not exceed a total height of 1-1/2". A minimum horizontal clearance of 1/8" must occur between the weights in the fixed weight area. Bolts under the driver must be trimmed flush to the top of the nut.
- 1.15 See Photo #1.15 for examples of adjustable and fixed weight.



**Photo #1.15  
(Weight materials must be painted  
and the weight of each piece  
clearly marked)**



**Photo #1.11.**

## IMPORTANT

After fixed weights are installed the bolts **MUST** be cut flush with the top of the nut to insure that a child will not get cut by the bolts.