



MISSOURI 500

(INDIVIDUAL; COMPETITIVE)

DESCRIPTION: This contest provides an opportunity for students to demonstrate their ability to design, draw, and build a product within a rigid set of specifications, and to develop a friendly spirit of competition.

GENERAL RULES AND REGULATIONS:

A contestant may enter only one (1) car. - Maximum of 5 cars per school district (on each level 5 Jr.Hi. and 5 H.S.).

All vehicles must be "Race Ready" at the time of registration.

Race Ready" means a complete vehicle with wheels and screw eyes attached, but no CO2 cartridge installed.

The following specifications are:

1. **Body specifications (DIMENSIONS INCLUDE WHEELS)**

**** a. Length - 9" Minimum, 11" Maximum**

b. Width – 1 1/2" Minimum at axles (*Body of the vehicle, no wheels*), 3 1/2" Maximum with wheels

c. Height - 3" Maximum

**** d. Shape - Body must support 50 pounds compression force end to end for 10 seconds. The body can be hollowed out.**

Compression testing will occur prior to racing, if it breaks it will be disqualified.

**** e. Weight (*RACE READY*) - 50 grams minimum, 85 grams maximum: without Co2 cartridge**

f. Material –*Any materials or wood type is allowed.*

The vehicle must be of sound construction, the event coordinator will have the final say based on their best judgment.

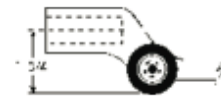
g. Finish - Sanded smooth, painted finish is required. **NO WET PAINT!** (Any names, decals, detailing, etc. must be done in good taste.)

2. **Power Plant Specifications**

a. Size and Material - Standard 8 gram cartridge, 3/4" diameter x 2 1/2".

b. Location - Centerline 1 3/4" **ABOVE THE FLOOR IN A RACE READY CAR.**

c. Housing Size - .125" minimum thickness around cartridge at all points – 1" housing diameter x 2.125" deep housing minimum.



3. **Axle, Bearing, and Wheel Specifications (All wheels must roll)**

Wheels must have contact with the floor surface.

a. Axle Material (any type)

b. **Maximum .125" axle movement from side to side.**

c. Bearing support –All parts of the axle should be covered by the body of the vehicle.

(No exposed axles allowed outside of the wheels, both axles.)

d. Must have least 5" minimum or 10" maximum between axle centers.

(Rear axle must be located a Minimum .75" forward from rear of car.)

e. Wheel diameter: Minimum: 1" Maximum: 2"

f. Wheel tread width (Minimum: .0625" Maximum: 1")

g. Tire Hubs *may be drilled out*, but must have clip on the outside of the tire hub.

4. **Steering System Specifications**

a. Screw Eye - On centerline alignment and "**firmly attached**" minimum size of screw eye is: #217 1/2

b. Distance between Screw Eyes - 4" minimum 10" maximum

c. Spacer washers and/or clips – maximum 8 each

Criteria for judging:

A. Entries are judged for speed (60 ft. track) and execution of design. **Any car that does not meet specifications will be disqualified from the awards.** All dragsters will be raced unless deemed unsafe by the event coordinator. (NOTE: All CO2 cartridges will be supplied by the Technology Exposition Assoc.) No car maintenance or repairs may be made after vehicles have been entered. Damage due to racetrack staff handling, the event coordinator shall make the determination if the student can make necessary repairs to the vehicle. Undamaged wheels that come off during the competition will be replaced if possible and will be placed with the dragster after the race is concluded.

Awards In Jr. Hi & H. S. Divisions

Be careful to read the specifications completely.



MISSOURI 500 Evaluation

Student Name: _____ School: _____

General Rules And Regulations: A contestant may enter only one (1) car. Division: ___ I=MS ___ II=HS

All vehicles must be "Race Ready" at registration. wheels and screw eyes attached, but no CO2 cartridge installed.

The following specifications are:

1. Body specifications (DIMENSIONS INCLUDE WHEELS)

- a. Length - 9" Minimum, 11" Maximum
b. Width - 1.5" Minimum at axles
c. Height - 3" Maximum
d. Shape - Body support 50 pounds compression force end to end.
e. Weight - 50 grams min. wo Co2 cartridge
f. Body Material - with sound construction methods.
g. Finish - Sanded smooth, painted finish.

2. Power Plant Specifications

- a. Housing Size - .125" minimum thickness around cartridge at all points.

3. Axle, Bearing, and Wheel Specifications (All wheels must roll and have no modification other than removal of flash)

- a. Axle Material (any type)
b. Maximum .125" axle movement from side to side.
c. Bearing support - All parts of the axle shall be totally enclosed inside the body of the car.
d. 4" minimum or 10" maximum between axle centers. (Rear axle located a Minimum .75" forward from rear of car.)
e. Wheel diameter: Minimum: 1" - Maximum: 2"
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- a. Screw Eye - On centerline and "firmly attached"
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Criteria for judging: A. Dragster speed B. Execution of design and rules violations

Any car that does not meet the above specifications will be disqualified from the awards.



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