

Automotive Camporee



This Camporee celebrates Auto Racing. It involves push car races and opportunities to work on the Automotive Maintenance Merit Badge.

STATIONS

1.	Tire Change	A need to know for all scouts, a way to do a “Good Turn Daily” for little old lady drivers.
2.	Detailing	Car detail station
3.	Scavenger Hunt	Car Parts.
4.	Tire Moving	How far can your patrol move a large tire?
5.	Oil Change/Basic Maintenance	Basic car care to know.
6.	Gauges, Lights, Symbols	What do the idiot lights mean?
7.	Emergency Escape	Can you get out of your vehicle in an accident?
8.	DUI Obstacle Course	Carts with drunk goggles
9.	No Rules Pinewood Derby Station	Patrols race their car for time, Top cars race off at end of day.
10.	Push Car Races	See following pages for rules
11.	Alternative Fuel Vehicles	Natural Gas, Electric, Hybrid, Hydrogen, Biodiesel
12.	Car Display	Classic Car Show

Push Car Races: This year the Camporee committee has decided to celebrate auto racing with our own push-cart races. There will be multiple types of races and activities. The top patrols will receive awards at the Saturday night campfire.

Troops can have multiple cars (one per patrol).

There will be 3 tracks on which all cars should plan to race:

Drag Race Track

Oval Track

Obstacle course track

Race Rules and Car design plan examples are on the last 3 pages of this guide.

All cars must pass a Pre-Race inspection prior to racing.

Car Parade and Design Judging: Show off your car in the afternoon car parade and design contest. Design award will be presented at the Saturday night campfire

Pushcart Race Rules

Pushcart Rules:

1. Carts must not have any protruding parts (long bolts, large pieces of wood, knives, etc.).
2. All carts need to be tagged as “good to go” by official derby referees before competing in races.
3. Carts must be equipped with the following safety items:
 - Seat Belt: must be safe and must fit the racer appropriately
 - Steering Mechanism
 - Push bar
4. All carts need to have steering that is controlled by the driver; not the pushers.
5. All carts need to have a seatbelt that securely holds the driver in the pushcart.
6. NO: pull carts, i.e. rickshaws (a pushcart is a cart that is pushed; not pulled).

Team Rules:

1. Each team must consist of one driver and two pushers.
2. Team members must be registered Scouts to compete on a team.
3. All pushcart racing team members must wear helmets.
4. No sandals or flip flops; all team members must wear closed-toed shoes.

Racing Rules:

1. All races will be overseen by the Official Derby Referees – decisions by the refs are final
2. Races will start with front wheels of each pushcart on starting line
3. Stay in your own race lane; do not cut any pushcart off while racing. This behavior will result in disqualification or do-over. All referee decisions are final
4. Any early jump starts will result in a disqualification or do-over. All referee decisions are final
5. The race is over when front wheels cross the finish line.

Prerace Inspection Requirements

A) Wheels

- a. All cars must have four wheels, two in the front and two in the back
- b. Wheel diameter must be between 5" and 20"
- c. Solid rubber tires or air filled tires are allowed
- d. Axles must be **lag type** fastener or **straight axles** (not nails)

B) Frame

- a. Minimum car width is 36" (Outside of wheels)
- b. Wheel base should be between 4'-0" and 5'-0" (center-to-center of wheels)
- c. No Sharp edges or points
- d. Frames can be metal or Wooden
 - i. Metal - No commercial frames
 1. Go Cart Frames
 2. Shopping Basket Frames
 - ii. Wood
 1. 2 x 4 construction grade lumber only. Not 4x4, 4x6, 6x6
 2. Frame must be bolted together. Remaining items can be attached with screws as long as parts are held secured. **No Nails**

C) Steering Blocks

- a. Car must be equipped with steering "safety" blocks to limit turning radius.

D) Steering

- a. Simple rope steering connected to the outer ends of the front axle is recommended.
- b. Scout may also use his feet on the front axle to assist steering.
- c. Foot rests are encouraged to give scouts leverage for steering.
- d. Other, more complicated, methods of steering are allowed, but must be approved (for safety) by the judges before the car is allowed to race.

E) Brake

- a. Car must be equipped with a rubber "drag" pad or brakes on the rear wheels.
- b. Brakes must apply on both sides of the driver to prevent sudden turning when used.
- c. Brakes must stop car in a timely manner.
- d. Driver must not use feet for braking (for safety).

F) Seat

- a. Securely fastened to the frame (see picture).
- b. A seat with a backrest is required.
- c. Floor board encouraged to prevent scouts from braking with their feet. It should be positioned between brakes and front axle. Must not interfere with operation of brakes or steering.

G) Seat Belt

- a. Car must be equipped with an adjustable seatbelt securely fastened to the car frame.

H) Push Bar

- a. Cars must be boy powered. No motors or other devices for power will be permitted.
- b. Secure push bar for wood or metal attached to the rear of the car (must be behind the driver).
- c. Push bar no more than 48 inches long.

I) No additional weighting to the car will be allowed as a means to increase speed.
J) Lightweight items such as flags can be attached to car as long as it's secured. Be creative.

K) Safety Equipment

- a. Helmet (required) - Bicycle type (minimum).
- b. Shoes (required) - No sandals or bare feet will be allowed.
- c. Gloves (required)- Leather or Roller blade type recommended.
- d. Long Pants (required).
- e. Elbow pads and kneepads are also encouraged (optional).

L) Racing

- a. Each run will be timed and logged by timekeepers.
- b. In the event of a crash **not of a driver's own doing**, runs for both cars will be voided and rerun. No more than 3 re-starts will be allowed.
- c. Judges will determine a maximum "default time" for all cars that will be assessed in the event a racer does not finish the course.
- d. Judges reserve the right to modify the rules at any time without prior notice.

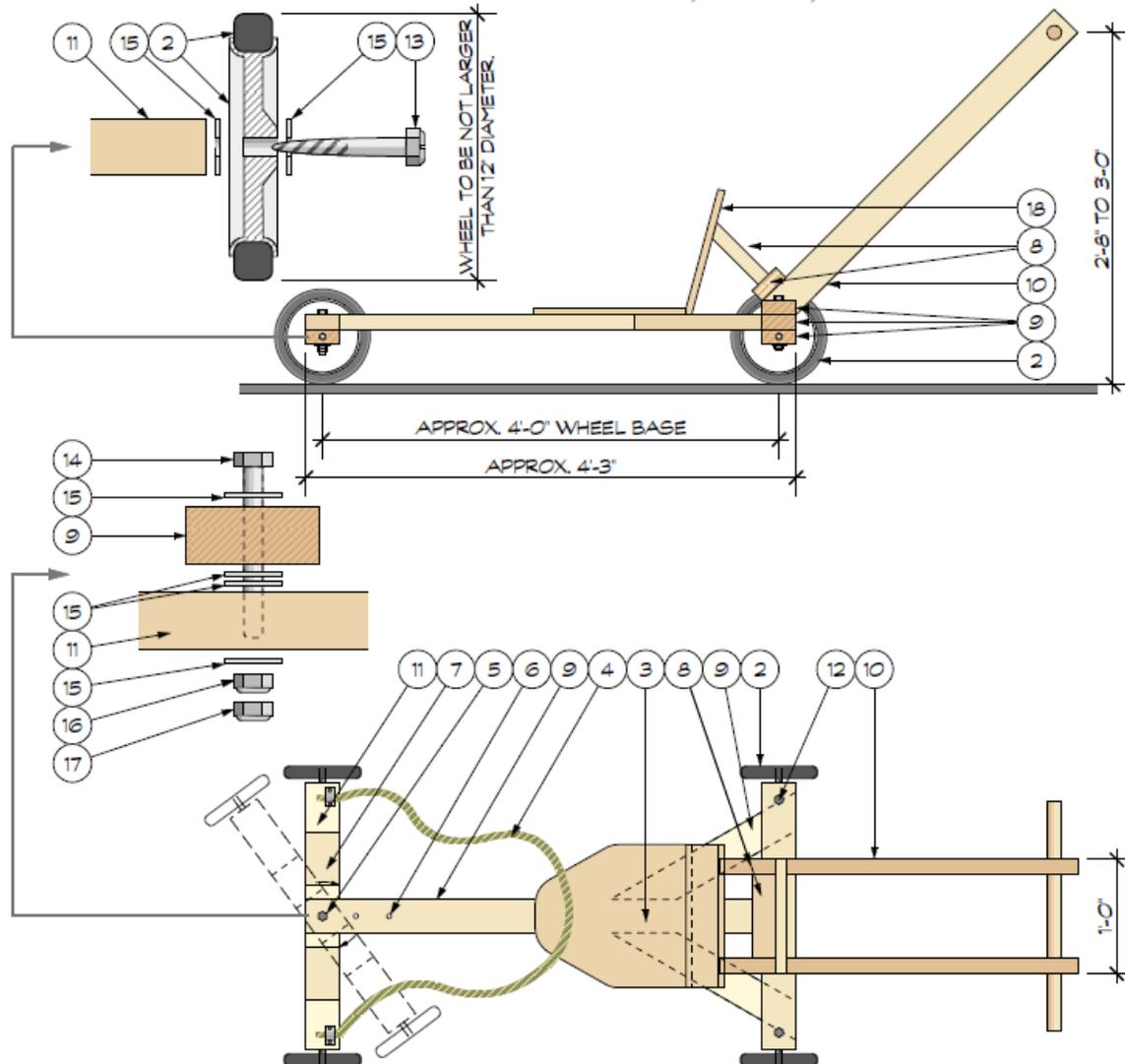
M) Behavior

- a. No disorderly or unsportsmanlike conduct.
- b. All Scouts will behave according to the Scout Oath and Law.

It is recommended that all troops "test drive" their cars before race day to familiarize themselves with the steering and braking mechanism of the push car.

PUSH CAR SUGGESTED PLANS

FEEL FREE TO CREATE YOUR OWN PUSH CAR
PLANS COURTESY OF SKYLINE DISTRIC BSA, HOUSTON, TX



NOTES TO DRAWING

- 1 WOOD PUSH BAR 1 1/2" DIAMETER.
- 2 WHEELS NOT TO BE LARGER THAN 12" DIAMETER.
- 3 3/8" OR 1/2" PLYWOOD SEAT 15" WIDTH X 20" LONG.
- 4 STEERING BRIDLE, 1/4" NYLON ROPE. OPTIONAL.
- 5 STEERING MACHINE BOLT.
- 6 DRILL HOLES ON THE AXEL TO ADJUST CAR TO USER PROPORTIONS.
- 7 2 X 4 SAFETY WOOD BLOCKS, TO LIMIT STEERING ANGLE.
- 8 SEAT POSTS SUPPORT.
- 9 2 X 4 WOOD CAR FRAME.
- 10 2 X 4 HANDLE SUPPORT.
- 11 2 X 4 X 28" WOOD AXLES.
- 12 CARRIAGE BOLT.
- 13 LAG SCREW.
- 14 MACHINE BOLT.
- 15 FLAT WASHER.
- 16 NUT.
- 17 SECOND NUT TIGHTENED AGAINST FIRST NUT TO LOCK.
- 18 3/8" OR 1/2" PLYWOOD SEAT BACK 15" WIDTH X 13" HIGH.

