



This Camporee is focused on fun and the competitive nature of Scouts and Troops. Participation at the Camporee will involve the design and construction of Downhill Racing Cars and Push Cars. No Merit Badge is being offered as part of this Camporee. It's just supposed to be a really fun time seeing which Patrol from which Troop can take the checkered flag. 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.

There will be 3 divisions for the Downhill Racers:

- Kit Car Classic
- Engineer's Choice
- Formula Flipper

There will be 3 Push Car tracks on which the push cars should plan to race. These races will be split into two divisions, 11-13 year olds and 14-17 year olds:

- Drag Race Track
- Oval Track
- Obstacle course track

Race Rules and Car design plan examples are found in this guide. All cars must pass a Pre-Race inspection prior to racing. It is recommended that all troops "test drive" their cars before race day to familiarize themselves with the steering and handling of the car. Each patrol needs to coordinate which of the car options they want to build. A patrol can build more than one type of car but they need to make sure they are able to complete them before the start of the Camporee. Adult leaders should be assigned to help each patrol. Each Patrol Leader, or Assistant Patrol Leader, needs to coordinate materials being brought to patrol homes to make sure the supplies needed are available and that patrols are not standing around. Planning needs to be occurring before the scouts meet. Scouts are encouraged to contact family members and friends in an effort to secure old bicycle parts, miscellaneous lumber, cardboard, canvas, spray paint, duct tape, glue, screws, and bolts to help with their cars construction.

CAR JUDGING

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

Overall Judging Categories:

- Fastest Car (Downhill Coasting) per Car Class
- Fastest Drag Race Team (2 divisions: 11-13 and 14-17)
- Fastest Oval Track Team (2 divisions: 11-13 and 14-17)
- Fastest Obstacle Course Team (2 divisions: 11-13 and 14-17)
- Best Engineered
- Best Constructed
- Best Use of Recycled Materials
- Most Creative

CAR CLASSIFICATION SPECIFICATIONS

Car Class 1 – Downhill Racer Kit Car Classic:

- Races will be timed events between pairs.
- Racers must wear helmets.
- Car must exactly match the enclosed Kit Car Schematic Dimensions.
- Decorate or add to your Kit car within the following guidelines:
 - No exposed sharp edges or points.
 - Total weight cannot exceed 85 lbs.
 - No propulsion systems allowed.

Car Class 2 – Downhill Racer Engineer's Choice:

- Minimum of three wheels.
- No kits or pre-manufactured cars/vehicle allowed.
- Functional brake required.
- Racers must wear helmets.
- Racer must have a seat belt or lap belt for restraint.
- No more than 36" wide.
- No more than 72" long.
- No more than 32" high.
- Top of seat cushion no more the 12" off the ground.
- Total car weight cannot exceed 85 lbs.
- No propulsion system allowed.
- No exposed sharp edges or points.
- Races will be timed events between pairs.

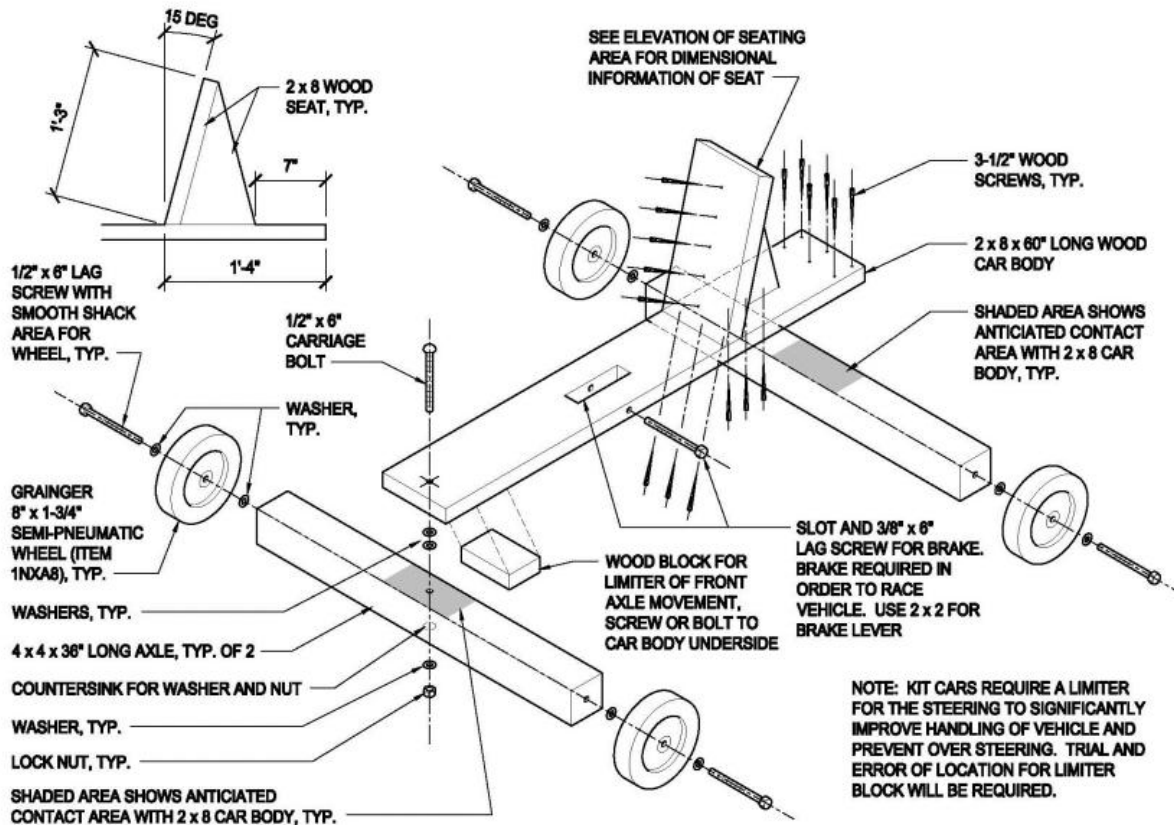
Car Class 3 – Downhill Racer Formula Flipper:

- Minimum of three wheels (min 6" in diameter).
- No kits or pre-manufactured cars allowed.
- Functional brake required.
- Racers must wear helmets AND a PFD.
- Racer must have a seat belt or lap belt for restraint.
- No more than 48" wide.
- No more than 72" long.
- No more than 32" high.
- Top of seat cushion no more than 12" off the ground.
- Total car weight cannot exceed 100 lbs.
- No motors allowed. Paddles are permitted.
- No exposed sharp edges or points.
- Races will be timed events between pairs.
- Car must roll downhill, enter water, go 50 feet around pylon and return to shoreline.
Canoe paddles may be used for the water portion

Car Class 4 - Push Car:

- Cars must not have any protruding parts (long bolts, large pieces of wood, knives, etc.).
- All cars need to be tagged as “good to go” by official derby referees before competing in races.
- Cars must be equipped with the following safety items:
 - Seat Belt: must be safe and must fit the racer appropriately
 - Steering Mechanism
 - Push bar
- All cars need to have steering that is controlled by the driver; not the pushers.
- All cars need to have a seatbelt that securely holds the driver in the pushcart.
- NO: pull cars, i.e. rickshaws (a pushcart is a car that is pushed; not pulled).
- Each team must consist of one driver and two pushers.
- Team members must be registered Scouts to compete on a team.
- All pushcart racing team members must wear helmets.
- No sandals or flip flops; all team members must wear closed-toed shoes.
- All races will be overseen by the Official Derby Referees – decisions by the refs are final
- Races will start with front wheels of each pushcart on starting line
- 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
- Any early jump starts will result in a disqualification or do-over. All referee decisions are final
- final
- The race is over when front wheels cross the finish line.

KIT CAR CLASSIC CONSTRUCTION REQUIREMENTS



MONSTER GARAGE CHALLENGE - KIT CAR

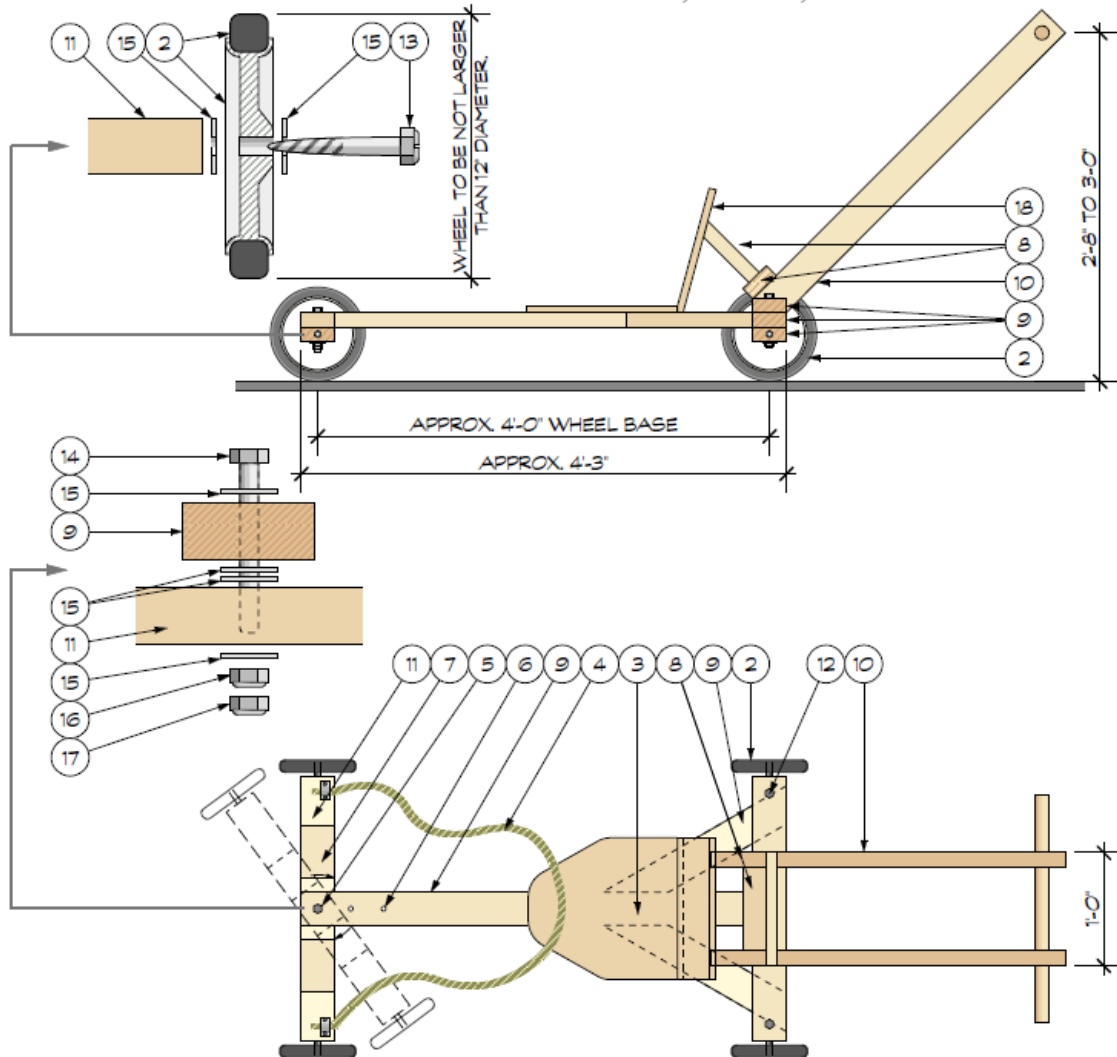
Kit Car Classic List of Materials:

- (2) 4x4 x 3-foot long axles
- (1) 2x8 x 5-foot long for Car Body
- (1) 2x8 x 3-foot long for Car Seat
- (1) 1/2" carriage bolts x 6-inches for steering pivot
- (4) 1/2-inch x 6-inches long lag screws with smooth shank for wheel axles
- (11) 1/2-inch ID washers for each side of each wheel and steering pivot
- (4) Wheels – 8-inch diameter from Grainger
- (1) Brake Stick - 2x2 x desired length. Reinforce to avoid braking at pivot.
- (1) 3/8-inch x 6-inch long lag screw for brake pivot
- 3-1/2-inch wood screws
- (1) Wood block for limiter

Warning - Wheels can be difficult to obtain. Allow substantial time to secure wheels. A special order may be required. Verify wheels being ordered have a 1/2-inch axle hole.

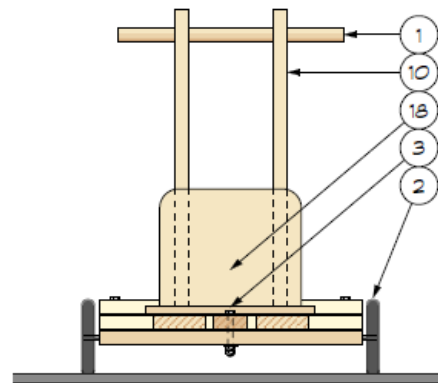
PUSH CAR CONSTRUCTION REQUIREMENTS

PUSH CAR SUGGESTED PLANS FEEL FREE TO CREATE YOUR OWN PUSH CAR PLANS COURTESY OF SKYLINE DISTRICT 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.



- Wheels
 - All cars must have four wheels, two in the front and two in the back
 - Wheel diameter must be between 5" and 20"
 - Solid rubber tires or air filled tires are allowed
 - Axles must be **lag type** fastener or **straight axles** (not nails)
- Frame
 - Minimum car width is 36" (Outside of wheels)
 - Wheel base should be between 4'-0" and 5'-0" (center-to-center of wheels)
 - No Sharp edges or points
 - Frames can be metal or wooden
- Metal - **NO COMMERCIAL FRAMES** such as:
 - Go Car Frames
 - Shopping Basket Frames
 - ii. Wood
 - 2 x 4 construction grade lumber only. Not 4x4, 4x6, 6x6
 - Frame must be bolted together. Remaining items can be attached with
 - screws as long as parts are held secured. **No Nails**
- Steering Blocks
 - Car must be equipped with steering "safety" blocks to limit turning radius.
- Steering
 - Simple rope steering connected to the outer ends of the front axle is recommended.
 - Scout may also use his feet on the front axle to assist steering.
 - Foot rests are encourage to give scouts leverage for steering.
 - Other, more complicated, methods of steering are allowed, but must be approved (for safety) by the judges before the car is allowed to race.
- Seat
 - Securely fastened to the frame (see picture).
 - A seat with a backrest is required.
 - Floor board encouraged to prevent scouts from braking with their feet.
- Seat Belt
 - Car must be equipped with an adjustable seatbelt securely fastened to the car frame.
- Push Bar
 - Cars must be boy powered. No motors or other devices for power will be permitted.
 - Secure push bar for wood or metal attached to the rear of the car (must be behind the driver).
 - Push bar no more than 48 inches long.
- No additional weighting to the car will be allowed as a means to increase speed.
- Lightweight items such as flags can be attached to car as long as it's secured. Be creative.
- Safety Equipment

- Helmet (required) - Bicycle type (minimum).
- Shoes (required) - No sandals or bare feet will be allowed.
- Gloves (required)- Leather or Roller blade type recommended.
- Long Pants (required).
- Elbow pads and kneepads are also encouraged (optional).
- Racing
 - Each run will be timed and logged by timekeepers.
 - 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.
 - Judges reserve the right to modify the rules at any time without prior notice.
- Behavior
 - No disorderly or unsportsmanlike conduct.
 - All Scouts will behave according to the Scout Oath and Law.