



2022

Cubmobile Derby Leaders Guide



If you've been to a Cubmobile race, you already know how much fun it is. If you haven't, ask someone who's been to one! Gravity-powered cars begin on a ramp and race downhill to finish line. The race is a timed event. All Scouts get two runs down the hill (once in each lane). Awards are given for 1st, 2nd and 3rd places for each rank.

The race is held on Court Lane in Cambridge on October 2, 2022, with the first race (Lions & Tigers) starting at 11:00 am. There will then be a 15 minute break before the Wolves race and will continue with a 15 minute break between the race for the next rank. There will be no set start time for each rank, encourage everyone to arrive early. If a Scout arrives after their ranks race is over, they will be allowed to run down the hill during the next race however, they will not be eligible for medals

Parents and leaders are encouraged to help both during and after the race. During the race we need people to be timers (run the stopwatch for one lane) and people to help stop cars at the end of the track or at the ramp at the top of the hill. You would not have to be in these areas to entire day but if you could help for only one race it would be a big help.

In this leader guide you will find

The flyer for this year's race,
A schematic drawing and Instructions and materials list for building a car,
Map and directions to the parking area,
What to do when you get there.

If you have any questions about the cars, the race or the venue, please contact me at 410-330-5777 or at slamoc@outlook.com.

Mike O'Connor
Cubmobile Chair



2022 CUBMOBILE DERBY

When: October 2, 2022
Time: Races Start at 11 am
Cost: \$5.00 per Scout (if registered and paid online by Oct. 1st)
\$7.00 After Oct. 1st (on site)
Registration opens at 10 am

Where: Court Lane, Cambridge

Race Starts:

11:00 – Lions then Tigers, Then there will be a 15 minute break between ranks.
There will be no set time for the next race

ON RACE DAY... Please arrive early as there is no set time for the next race.

Bring all cars to the PIT for inspection. Register, Pay and receive your race numbers Find your Pack and get familiar with your car - the District has a few cars for everyone to share. Have fun, cheer and pick up some race tips

ALL PACKS ARE ASKED TO REGISTER IN ADVANCE

Registration is on the Council Calendar.

Packs are encouraged to register once (as a unit). Late registrations can be made on race day (cash/check only), a \$2.00 late fee applied. PLEASE try and register beforehand - It will help us start the race on time.

The race is a timed event. All Scouts get two runs down the hill (once in each lane). Awards are given for 1st, 2nd and 3rd places for each rank. Scout will be able to run down the hill if they arrive after their rank race is over but will not be eligible for medals.

For more information, and to register, go to Delmarvacouncil.org or contact Mike O'Connor at slamoc@outlook.com

LET'S GO RACING!!!!!!

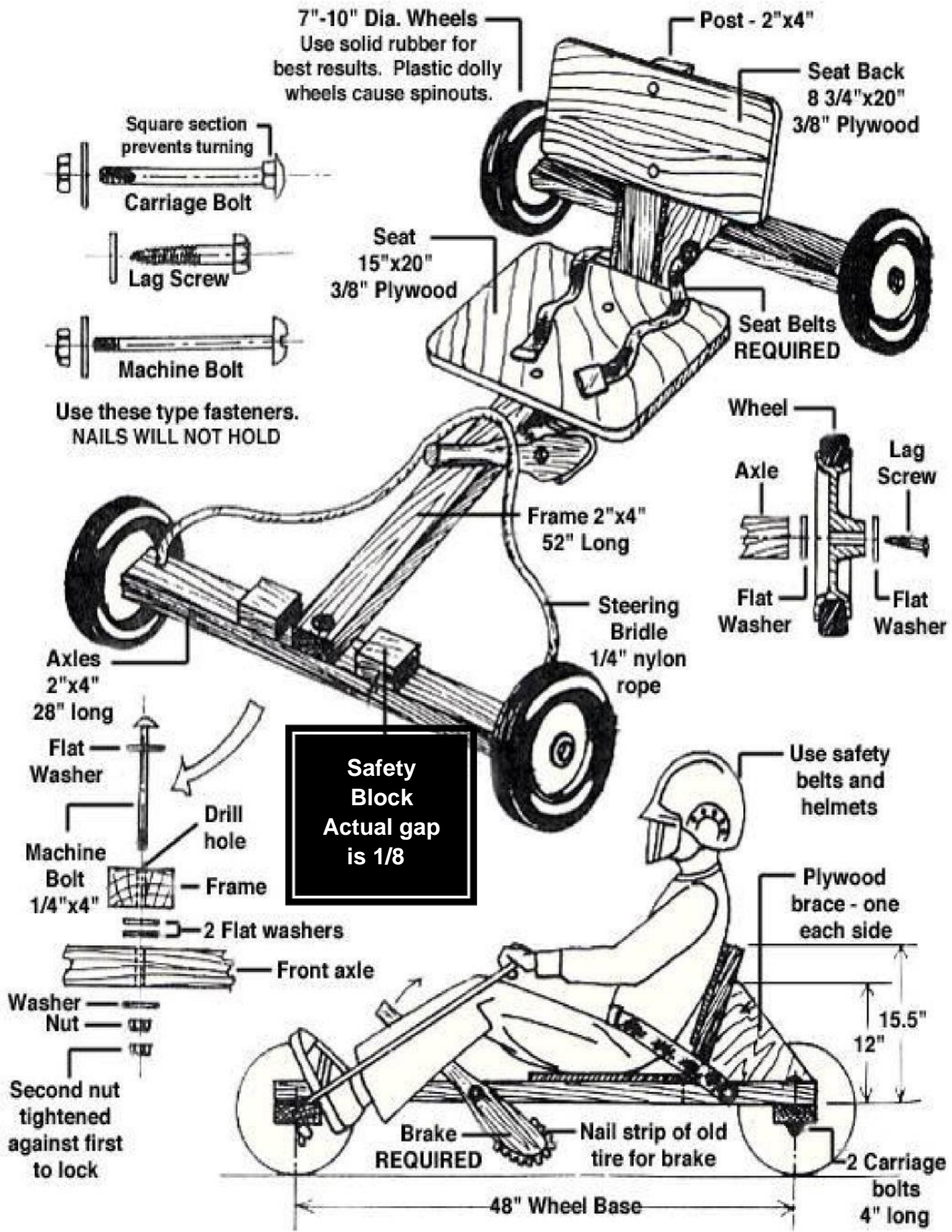
IMPORTANT: ALL SCOUTS MUST WEAR CLOSED TOED SHOES, LONG PANTS AND A HELMET. NO CROCS OR SANDLES TYPE SHOES. it's a safety thing.

Volunteers Needed

If we don't have enough signed up you may be drafted on race day.

ALL COVID-19 RULES AND REGULATIONS WILL BE REQUIRED DURING THE EVENT.
MASKS MAY BE REQUIRED PER CDC AND STATE GUIDELINES.

How to Build a Cubmobile



How to Build a Cubmobile

Detailed Instructions

1. Cut one 2 X 4 (42 to 52 inches for main frame.) Might want to make several sizes for scouts of different heights.
2. Cut two 2 X 4's 28" for axles.
3. Make an "X" on each end of each axle, and drill a hole at each "X" intersect, 6" deep using a hand electric drill (5/16" wood bit works well).
4. On front axle 2 X 4:
 - a. Drill a 5/16" hole on each end near the back for the rope.
 - b. Drill a 3/8" hole at center of 2 X 4.
 - c. Attach (2) 2 X 4 safety blocks to front axle. The safety blocks must be attached to the front axle leaving only a 1/8" gap between the safety block and the main frame. The picture shows a much wider gap, but the narrow gap makes the cars much safer by limiting the range of steering.
5. At front of main frame 2 X 4, drill a 3/8" hole (center 1-5/8" from front).
6. Attach front axle to frame using 3/8" X 4" hex bolt, 4 washers, and lock nut or 2 nuts. (Tighten enough to allow steering).
7. Align back axle 2 X 4 at right angle with back of main frame 2 X 4, clamp if possible. Drill (2) 5/16" holes through axle and main frame. Attach main frame to back axle using 2 carriage bolts, 2 washers, 2 lock washers, and 2 nuts. If this is to be a permanent attachment, glue also.
8. Cut out seat and back rest from plywood.
9. Cut one 2 X 4 12-14" in length for back rest support. (Bevel slightly about 5 degrees if possible).
10. Attach backrest support (bevel end down) to mainframe using glue and 2 screws (#8...2 1/2") at an angle. Position of this support depends on size of the youth, have scout sit on 2 X 4 frame to estimate position.
11. Cut out 2 triangular shaped pieces of plywood and attach to either side of backrest support and main frame with glue and screws (#6 1-1/2"). Drilling small pilot holes helps.
12. Attach seat and back rest using glue and screws (#6...1-1/2").
13. Cut 2 X 2 surveyor's stake to 14-16" at an angle, cover end with rubber using nails, drill a 3/8" hole through stake at location it will meet main frame.
14. Drill a 5/16" hole into main frame at point to attach brake. Mount brake using 3/8" X 4" lag screw and washer to side of main frame.
15. Drill and attach seat belt with fasteners of choice.
16. Attach 6-7' of 1/4" rope to front axle as shown.
17. Attach wheels using washers and 3/8" X 6" lag screws. (Socket wrench helps).

How to Build a Cubmobile

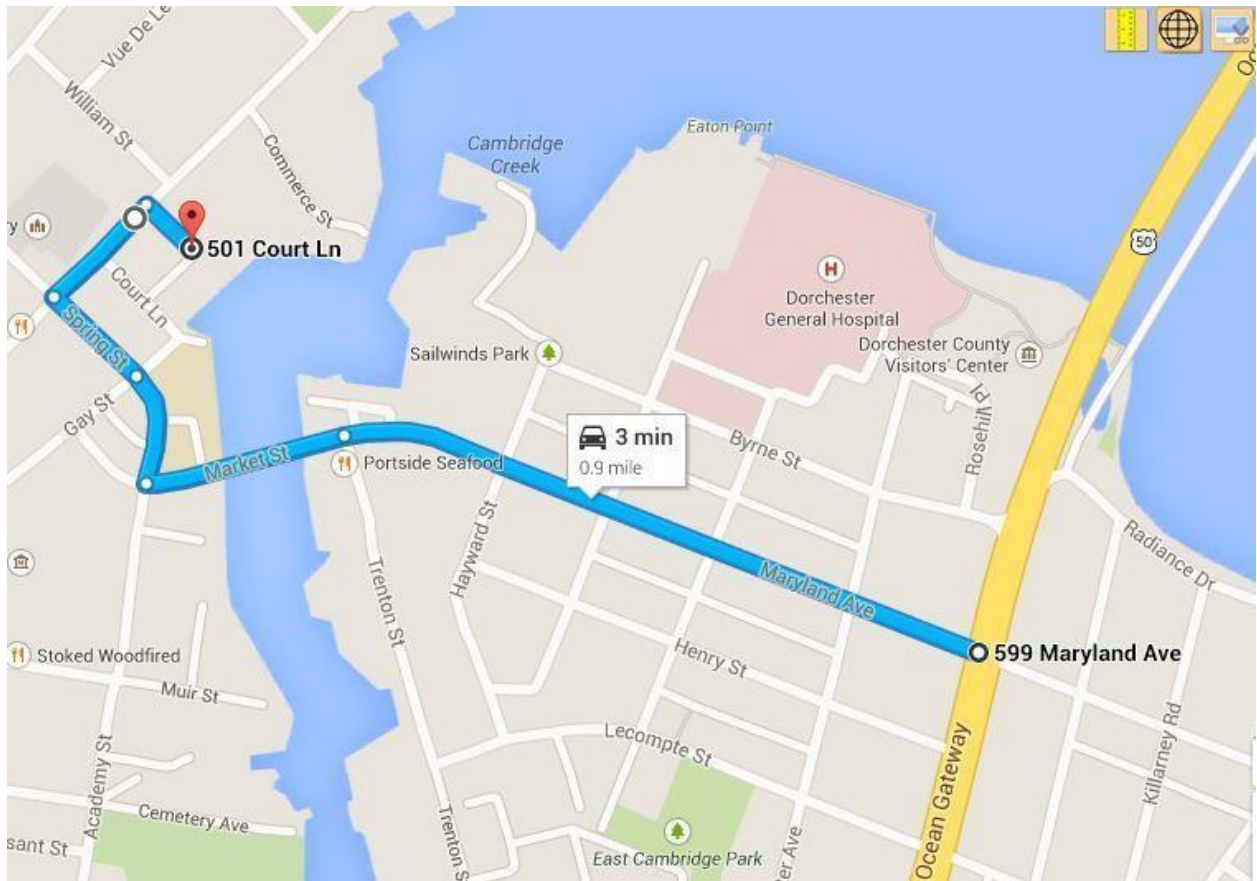
Supplies and Tools:

Qty	Description	Tools you will need
4	8" wheels	Power drill
1	2'X4' 3/8" or 1/2" plywood	3/8" and 5/16" wood bit
2	8' 2X4's	Wrenches or socket set
1	2"X2" surveyor's stake	Screwdriver
4	3/8" X 6" lag screws (for wheels)	Tape measurer
1	3/8" X 4" hex bolt (for front axle)	Wood glue
1	3/8" X 4" lag screw (for brake)	Power or hand saw
2	5/16" X 4" carriage bolts (for rear axle)	
13	3/8" washers	
1	3/8" lock nut	
2	5/16" washers	
2	5/16" lock washers	
2	5/16" nuts	
32	#6 X 1 1/2" wood screws	
4	#6 X 2" wood screws	
1	6-7' 1/4" rope	
1	seat belt	
1	2" X6" piece of rubber (old tire)	

Cubmobile Guidelines:

- Wheels must not exceed 10 inches in diameter.
- Car frame is made from 2-by-4-inch construction lumber.
- The overall length of the car is a maximum of 5 feet; the wheel base a maximum of 4 feet.
- Use roundhead 1/4-inch bolts to hold frame. Screws are a second choice. Nails are not suitable, because they may work loose.
- All cars must have a seat with braced backrest, so the Scout can comfortably steer with his feet.
- Steering is done with the feet, which are placed on the front axle, and by the hands holding a rope fastened to the front axle.
- If threaded axles are used, the nuts must be secured with cotter pins or wire.
- **Cars must be equipped with an adequate safety belt securely fastened to the main frame of the car.**
- Cars must be equipped with a handbrake with its rubbing surface faced with a rubber material such as a strip of an old tire. This will stop the car when dragged on the ground.
- During a race, the two 2-by-4-inch blocks fastened 1/8 inch from the center board will limit the turning radius. (Very important to test this before the race!) □ No extra weights, etc. may be placed on the Cubmobile.
- For the Scout's safety, they are required wear long pants, and shoes that completely cover the feet, and a helmet of some kind. Seatbelt must be used and snug.

Easton



Salisbury

From Easton, turn right on Maryland Ave.

From Salisbury turn left on Maryland Ave.

Follow Maryland Ave across the Cambridge Creek Bridge, bear right after bridge. Go to the second light, (Court house will be on your right). Turn right at that light. The first road on your right will be Court Lane, DO NOT turn here, continue on High St. for about 500 ft. there will be what looks like a driveway, but that is the entrance to the parking area.

When you arrive:

- ❖ Stop at the registration table to confirm registration, pay any fees and get name tags.
- ❖ Bring all cars to the inspection area. Here the cars will be checked for brakes, seat belts and overall soundness. Each car will get a sticker showing they have passed inspection. Please let the inspector know if it's OK for other packs to use your cars. If your pack only wants your pack to use them they will get a different color inspection sticker.
- ❖ After inspection, take cars to the top of the hill and park them.
- ❖ Gather with your other pack members and cheer on the youth as they race down the hill.
- ❖ HAVE FUN.

The City of Cambridge was nice enough to allow us to close the street, and Dorchester County was nice enough to let us use the grounds, so let's show our appreciation by leaving the area clean. Please take any trash or place in cans provided. Remember this is a Scouting event and a Scout is Clean.

SAFETY FIRST

All cars must have a seat belt bolted to the frame.

Must have long pants

Must have closed toed shoes (no crocs)

Must have a helmet.

If you do not have **ALL** of the above you will not be allowed to race.

COVID-19:

All rules and restrictions in place at the time of the race will be enforced. Distancing and masks are encouraged and may be required, so bring a mask.

There will be no seating provided this year to encourage distancing and so packs can gather together to cheer on members of their pack.