

# **Cub Scouts**



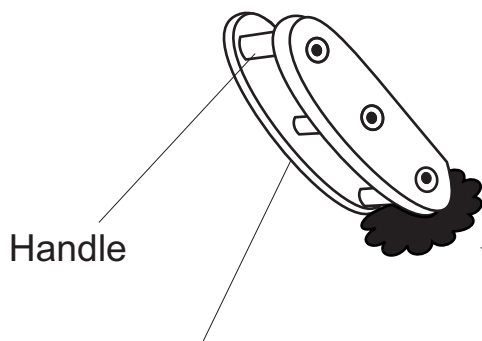
## **Tecumsha District Greater Pittsburgh Council Cub Mobile Derby Race Information**

## Note: Changes made from How-To-Book and Bear Book

- 1.) **Axles** --Steel Drilled and Cotter Pinned for Safety.
- 2.) **Foot Rest and straps** --to hold the boys feet during the race so they can not put their feet down.
- 3.) **Double Sided Brake** – to stop straight and safe. Without double brake it is Dangerous!
- 4.) **Close gaps in Steering Blocks** --to reduce steering, to reduce out-of-control incidents.
- 5.) **Drill Several Holes in Main Frame** – Near front so that you are able to move front axle back to fit smaller kids.
- 6.) **Seat Belts** -- from local salvage yards.
- 7.) **Bike Helmets.**
- 8.) **Knee and Elbow pads.**

### Brakes and Foot Straps

Double the Brake, for if you use a single sided brake shown in the How-To-Book or Bear Book, the car will turn when brake is applied. Double the brake by using the double brake method. You may make the double brake from wood or steel.



Use 2 X 4's or 2 x 2's **Connect Top, middle and bottom!**

2 x 4 piece in between on bottom angle slightly for taper rap with rubber from old car tire.

Bolt through 2 x4 or 2 x 2 frame

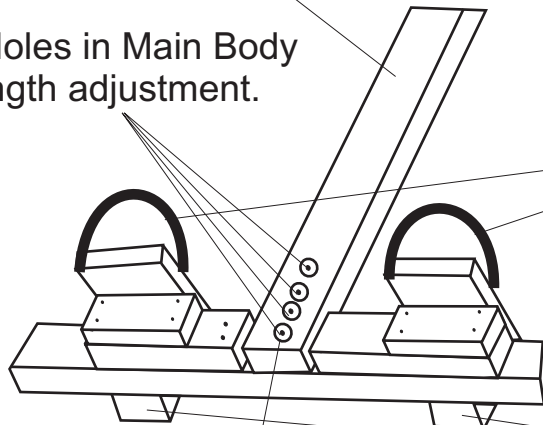


Use semi strong spring for return to keep brake from dragging while racing.

Main Body Board

Drill Holes in Main Body for length adjustment.

Velcro straps to hold foot in place



Front – center bolt to steer.

Foot rests

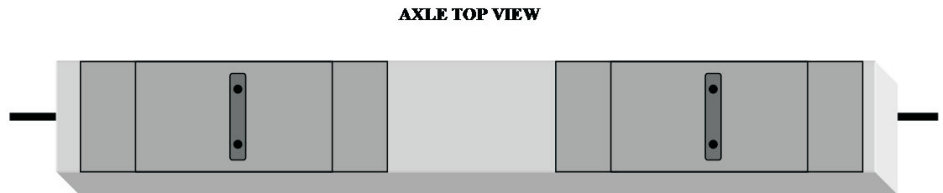
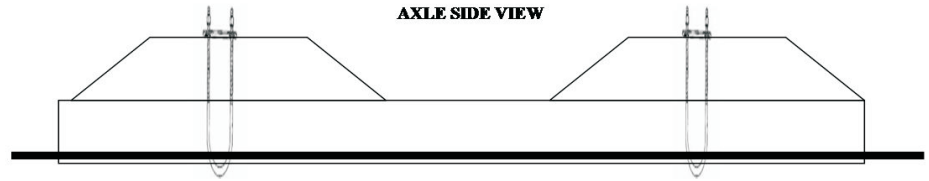
Put a washer between axle frame and main body board



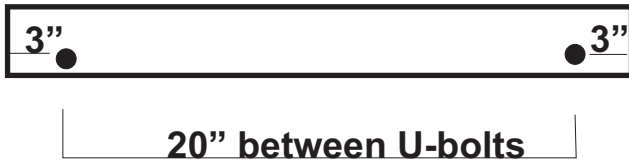
## Axles and tires

**U-Bolt type**-- $\frac{1}{2}$ " Steel Round Rod.  
32  $\frac{1}{4}$ " length  $\frac{1}{2}$  x 1  $\frac{1}{2}$  washers  
2' in from each side maintaining  
28  $\frac{1}{4}$ " between washers

Axle's can be secured by using  
U-Bolts to tighten the axles into the  
grove you made in the wood.

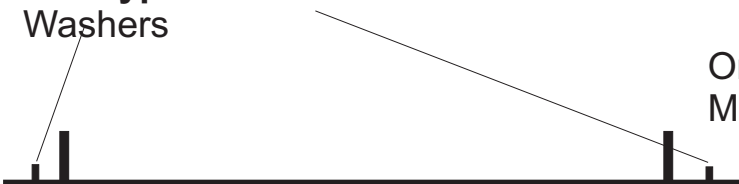


**Wood cross member** – 2" x 4" x 28"

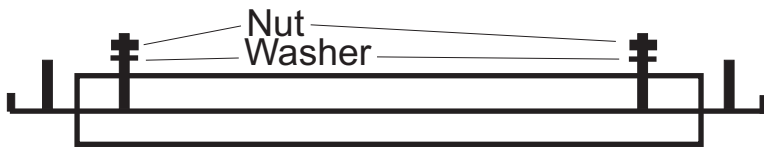


Cut groove end to end for axle to rest in  
then drill two holes at each end 3" in  
This is for U-Bolt.

**Bolt type  
Washers**



Or cut head of bolt off  
Make sure everything aligns well.



Drill one hole at each end for bolt on axle. Groove end to end for axle to rest in.



**Tires are 10" Hard Rubber**

axle size  $\frac{1}{2}$ " Smooth tread best.

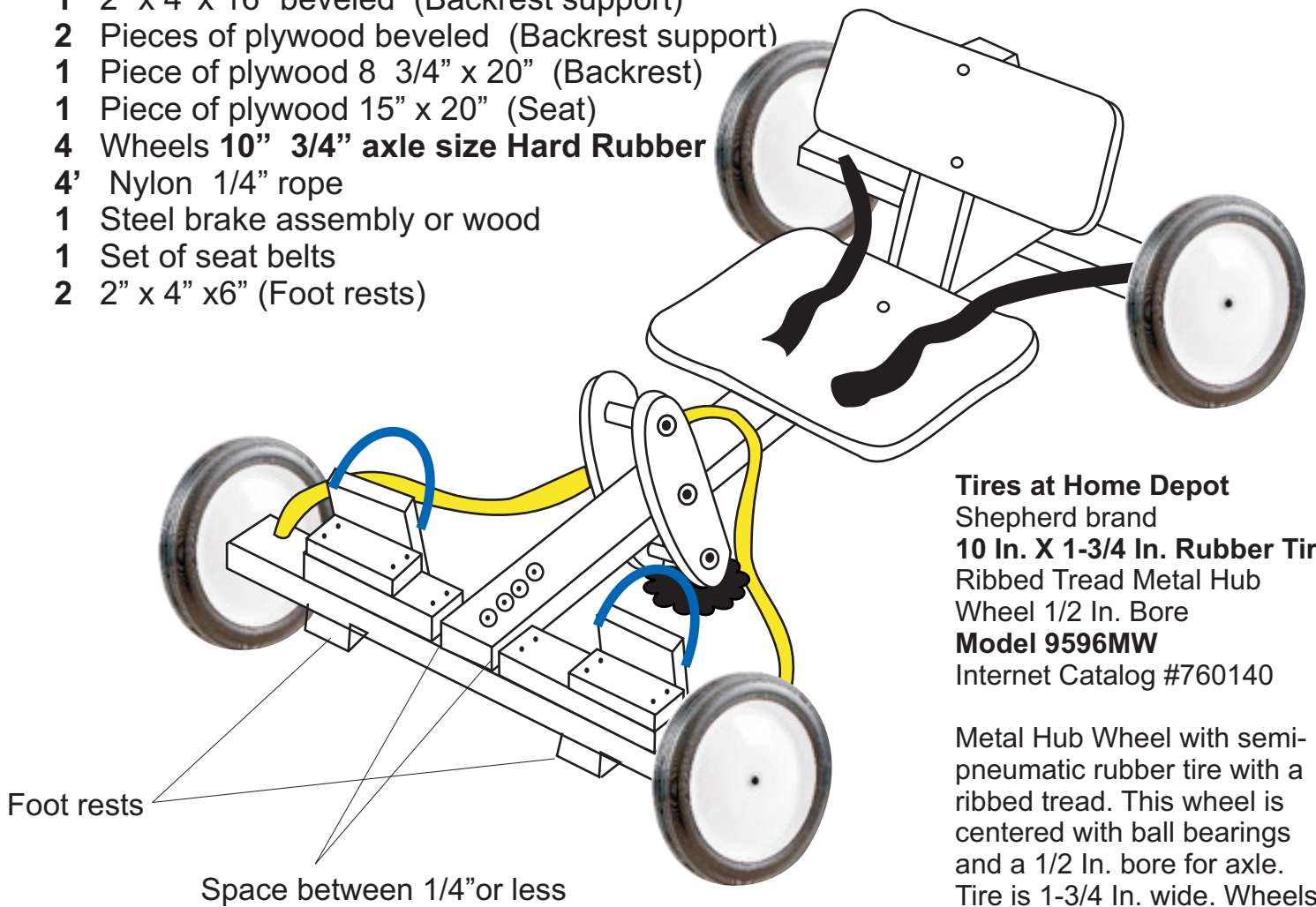
Fit wheel to axle, add a washer on then drill for carter pin.

Home Dept \$9.50 each wheel and tire. (See next page for more info on tires!)

# Cub Mobile Specifications & Parts

## List of Parts

- 1 2" x 4" x 52" (Frame)
- 2 2" x 4" x 28" (Axles)
- 1 2" x 4" x 16" beveled (Backrest support)
- 2 Pieces of plywood beveled (Backrest support)
- 1 Piece of plywood 8 3/4" x 20" (Backrest)
- 1 Piece of plywood 15" x 20" (Seat)
- 4 Wheels 10" 3/4" axle size Hard Rubber
- 4' Nylon 1/4" rope
- 1 Steel brake assembly or wood
- 1 Set of seat belts
- 2 2" x 4" x 6" (Foot rests)



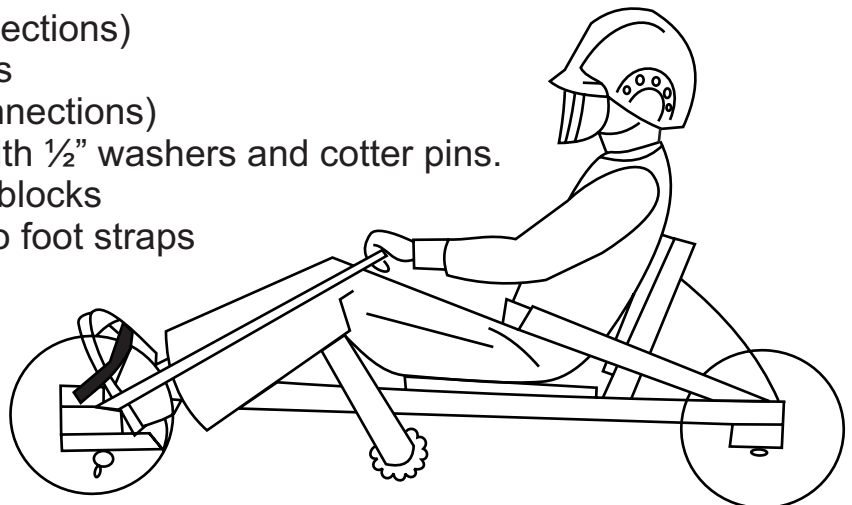
## Tires at Home Depot

Shepherd brand  
**10 In. X 1-3/4 In. Rubber Tire**  
Ribbed Tread Metal Hub  
Wheel 1/2 In. Bore  
**Model 9596MW**  
Internet Catalog #760140

Metal Hub Wheel with semi-pneumatic rubber tire with a ribbed tread. This wheel is centered with ball bearings and a 1/2 In. bore for axle. Tire is 1-3/4 In. wide. Wheels are commonly used around the home on garden carts, hand trucks and material handling carts. \$9.25 each  
**9/27/2005**

## Miscellaneous Parts

- 22 Pieces # 8 x 2 1/2" wood screws  
(use for 2" x 4" to 2" x 4" connections)
- 22 Pieces # 8 x 1 1/2" wood screws  
(use for 2" x 4' to plywood connections)
- 2 Axles 1/2" steel rod, complete with 1/2" washers and cotter pins.
- 1 Gauge plastic for gap steering blocks
- 4 pieces #6 x 1" screws for velcro foot straps



# Race Day Rules

- (1). All scouts are required to have a personal protection on to race. Protection equipment: Helmet, pads, closed-toe shoes, etc.
- (2). No scouts are allowed on the race track at any time other than in the car. Stay behind the hay bales only.
- (3). No horseplay around the track.
- (4). Each scout has three (3) runs. The best run time of all (3) is the time used for placement.
- (5). Any scout that is not at the staging area when his name is called will lose his turn to run that heat.
- (6). If the car goes off the track during the run, the scout will get a restart.
- (7). Decisions of the judges are **FINAL!!**



Copy and cut and give to each scout prior to Race Day!

## INFORMED CONSENT AGREEMENT

I understand that participation in the \_\_\_\_\_ offered the  
(Activity)

\_\_\_\_\_ Council, Boy Scouts of America, involves a certain degree of risk.

I have carefully considered the risk involved and have given \_\_\_\_\_, my

(Son/daughter), my consent to participate in \_\_\_\_\_ on \_\_\_\_\_  
(Name) (Date)

This form must have both parent/guardian signatures(s):

\_\_\_\_\_  
Name (Please print)

\_\_\_\_\_  
Name (Please print)

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Date

Telephone number(s) (area code included)  
\_\_\_\_\_