

**Five Rivers District
2007 District Cubmobile Races**

**Saturday, October 6, 2007
Practice Runs Start at 8:00 am
Races Start at 9:30 am**

**W. Main Blvd. (Two Blocks West of Capitol Building)
in Jefferson City**

Theme: Wild Wild West

Concessions will be available

All Cub Scout Packs in the Five Rivers District are invited to participate in the Third Annual District Cubmobile Races. Cubmobiles are similar to soapbox derby cars – the scouts ride in the cubmobile cars down a sloped track. The scouts will build their cubmobiles (with leader assistance). The race is open to registered Tigers, Wolves, Bears, and Webelos.

Our Goals

Growth Through Learning – Scouts learn to use tools by participating in the cubmobile construction.

Growth Through Creativity – Scouts should express their creativity by decorating their cubmobiles and themselves consistent with the race theme.

Growth Through Competition – Competition teaches our scouts to do their best and be courteous and gracious competitors at all times.

Growth Through Courage – Scouts learn to overcome their fears by racing their cubmobiles down an inclined track.

Safety First!!!!

To ensure a fun and successful race, the following safety requirements will be **strictly enforced**:

- All scouts are required to wear a strapped helmet (bicycle, football, etc)
- All scouts are required to wear elbow pads or a long-sleeved shirt
- All scouts are required to wear knee pads or a pair of long pants
- All scouts are required to wear shoes – no sandals or flip-flops and no bare feet
- All scouts are encouraged to wear gloves
- Cars will allow minimum steering (the track is straight, so there is no need to turn) – maximum of ¼ inch space between frame and steering blocks on front axle – back axle is fixed to frame and allows no turning
- Nothing may extend from the car past the edges of the wheels in any direction
- The car must be equipped with a seat belt and a brake
- Scouts must never brake using their feet – their feet will be pulled under the car and can cause injury
- Wheels cannot have bearings for Tiger and Wolf racers (wheels without bearings are slower and safer for younger scouts)
- It is strongly recommended the scouts practice with their Cubmobiles prior to race day
- All cars and drivers will be inspected before each race

Registration

Cub scout racers will register with a car/team and compete both individually and as a team. Registrations will be accepted until 9:00 am on race day.

1. Each cub scout racer will be registered on the car/team registration form and assigned to a car/team. Each team should have between 4 and 8 scouts. If a car/team has fewer than 4 scouts, the scouts can still register and compete individually. Please do not register more than 8 scouts on a team as this slows the racing.
2. Each cub scout racer must submit an Informed Consent Agreement signed by their parents/guardians.
3. Registration fee is \$5 per racer. The fee may be paid by the pack or paid individually by each scout. This fee is used to pay for awards and race expenses.
4. Each pack should commit one volunteer to assist with race setup and cleanup. Volunteers should arrive by 7:00 am on race day.
5. Please register in advance if at all possible. If the race must be cancelled/postponed due to weather, the race officials will contact the person listed on the registration form.

The Cubmobile

In a departure from past years, the cubmobile cars must be built to the specifications in the attached design or in the Bear handbook under "Things That Go". No deviations from this basic design will be allowed. Cubmobiles built in prior years may be used again provided they were built to the specifications in the Bear handbook.

1. Frame must be made from 2x4 pine lumber
 - * we strongly recommend you bring spare front and rear axles on race day
 - * no metal or hardwood frames allowed
 - * frame must be bolted together – no nails
 - * length of frame not to exceed 52 inches, but can be shortened for the younger scouts
 - * Car width cannot exceed 36 inches to outside of wheels
2. Cubmobile must be equipped with steering blocks to limit turning radius
 - * space between frame and blocks shall not exceed ¼ inch
 - * blocks should be bolted to the axle to minimize movement
 - * bring extra steering blocks as they can be damaged during racing
3. Cubmobile must be equipped with a steering rope attached to both ends of front axle
 - * ensure rope is of adequate length for a comfortable grip
4. Wheels must not exceed 12 inches in diameter
 - * No spoke wheels unless covered with a hub cap
 - * Solid rubber tires only (air filled tires are not allowed)
 - * Tires with bearings are allowed for Bears and Webelos Scouts only
 - * Tires with bearings are not allowed for Tigers and Wolves (for safety reasons)
5. Cubmobile must be equipped with a wood seat
 - * No car seats will be allowed
 - * Seat must be securely fastened to the frame
 - * Seat must be equipped with a backrest
6. Cubmobile must be equipped with an adjustable seatbelt securely fastened to the frame
7. Cubmobile must be equipped with a hand brake and this brake must have a rubber "drag" pad or equivalent
 - * Scouts should never use their feet for braking – their feet will be pulled under the car and can cause injury

8. The cubmobile may be painted and decorated in accordance with the race theme – “Wild Wild West”.
 - * Decorations must never create any type of safety issue (if the race officials identify a safety issue, the racer will be required to remove the decoration prior to racing)
 - * No decoration may extend past the wheel edges in any direction
 - * Avoid any decorations that could impale a driver or race official
 - * Decorations may not be added simply to add weight to the car
 - * All decorations should be securely fastened to the car
9. No additional weight may be added to a car as a means to provide ballast
10. Lowe’s Home Improvement Center in Jefferson City is offering a 10 percent discount on materials used for building cubmobiles. To receive the discount, when purchasing materials at Lowe’s, ask for a manager and let them know the materials are for a cubmobile. The discount applies only to materials used in the cubmobile.

The Cub Scout Racer

Any registered Tiger, Wolf, Bear, Webelos 1, or Webelos 2 scout in the Five Rivers District is eligible to race in the Cubmobile Races. Each cub scout racer is registered with a team and cubmobile car.

1. There should be a minimum of four racers and maximum of eight racers for each car/team. The racers do not have to be from the same rank or pack.
2. Each cub scout can be registered to race with only one car and team.
3. It is strongly recommended that all scouts practice with the cubmobile prior to race day to become familiar with steering and braking.
4. The cub scout racers may wear their uniforms. The racers may also dress in accordance with the race theme – “Wild Wild West” – provided they comply with the safety requirements.
5. All cub scout racers must have approval to race from their parent/guardian and must submit a signed Informed Consent Agreement.

The Race

All races will be timed and the winners will be determined based on time, not the results of the individual races. Two cubmobiles are raced at a time. They start from a ramp and proceed down a hill to the finish line.

1. The racers will be separated as much as possible to prevent one racer from interfering with the other racer.
2. Each cub scout racer will race their cubmobile twice.
3. If the cub scout racer hits the curb or otherwise stops before their car's front tires pass the half-way mark, the race will not count and the cub scout will be allowed to try again. If the cub scout racer stops after the car's front tires pass the half-way mark, the race officials will try to correct the car and allow the cub scout to finish the race and the cub scout will not be allowed to try again. If the scout's time exceeds a maximum race time, the scout will receive the maximum race time.
4. Two race officials will time each racer. The average from these two times will be the racers official time. In the event of error or disagreement, the race officials may require the cub scout to race again. Racers and adults may NOT request permission for the scout to race again.
5. If a car is damaged during a race, the team will be allowed the opportunity to repair the car. We strongly recommend every team bring spare axles and steering blocks and necessary tools and hardware.
6. The decisions of the race officials are final. The rules may be modified at anytime prior to the start of races. All final rules will be reviewed on race day prior to the start of races.
7. Times for each cub scout and for each team will be averaged to determine the winners. Awards will be given to the fastest scouts by rank and to the fastest cars/teams. All racers will receive a patch.
8. As needed, we will have run-offs to resolve ties. Both scouts must be present for the run-off or the missing scout will forfeit the race.
9. One "Best of Show" trophy will be awarded to a car/team for best exhibition of the race theme – "Wild Wild West". Cars should be decorated in accordance with the theme. Racers are also encouraged to dress in accordance with the theme. Judging for "Best of Show" will occur prior to the races. Judging will be based on design, creativity, and theme.
10. All awards will be presented after completion of all racing. Cub scout racers are encouraged to stay for the awards presentation, but are not required to be present.
11. Disorderly or unsportsmanlike conduct by cub scouts or adults will not be tolerated. It the responsibility of the adult leaders to monitor the behavior of their racers. The race officials may disqualify racers and/or require racers or adults to

leave the race in the event of inappropriate behavior.

12. In the event of race cancellation due to inclement weather, the race officials will contact the contact person listed on the registration form. We have scheduled an alternate race day for the following Saturday, October 13. For safety reasons, we will not race if the streets are wet.

Any questions, please contact Darin Hackmann at (573) 635-1099 or dnshack@socket.net.

2007 Five Rivers District Cubmobile Registration
Saturday, October 6, 2007
Practice Runs: 8:30 am Racing Starts: 9:30 am
West Main Street (2 Blocks West of Capitol Building) Jefferson City
Registration Deadline: 9:00 am on Race Day

Register between 4 and 8 scouts for each car/team. Cub Scouts registered with one car/team can be from different ranks and packs. Register even if you don't have 4 scouts – the scouts can still compete individually.

Cub Scouts will compete individually and as part of the team. Cub Scouts must be registered with the Great Rivers Council to participate in the Cubmobile Races.

An Informed Consent Agreement for each cub scout signed by the scouts' parents/guardians must be attached to the registration form.

Registration Fee: \$5 per cub scout – must be paid prior to race time – may be paid by pack or individually by cub scout

Car/Team Name: _____

Contact Person: _____

Contact Phone (prefer cell): _____

Contact Email: _____

Note: In the event of inclement weather, the race officials will notify the contact person of race cancellation.

Scout Name	Pack	Age	Rank

Any questions, contact Darin Hackmann at (573) 635-1099 or dns shack@socket.net. Mail completed registration form in advance to Darin Hackmann, 4110 Old Shamrock Ct., Jefferson City, MO 65101 or bring on day of race. Checks for registration fees should be made payable to Great Rivers Council.

INFORMED CONSENT AGREEMENT

I understand that participation in the _____ offered through 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),
(Name)

my consent to participate in _____ on _____
(Activity) (Dates)

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

Name (Please print.)

Name (Please print.)

Signature

Signature

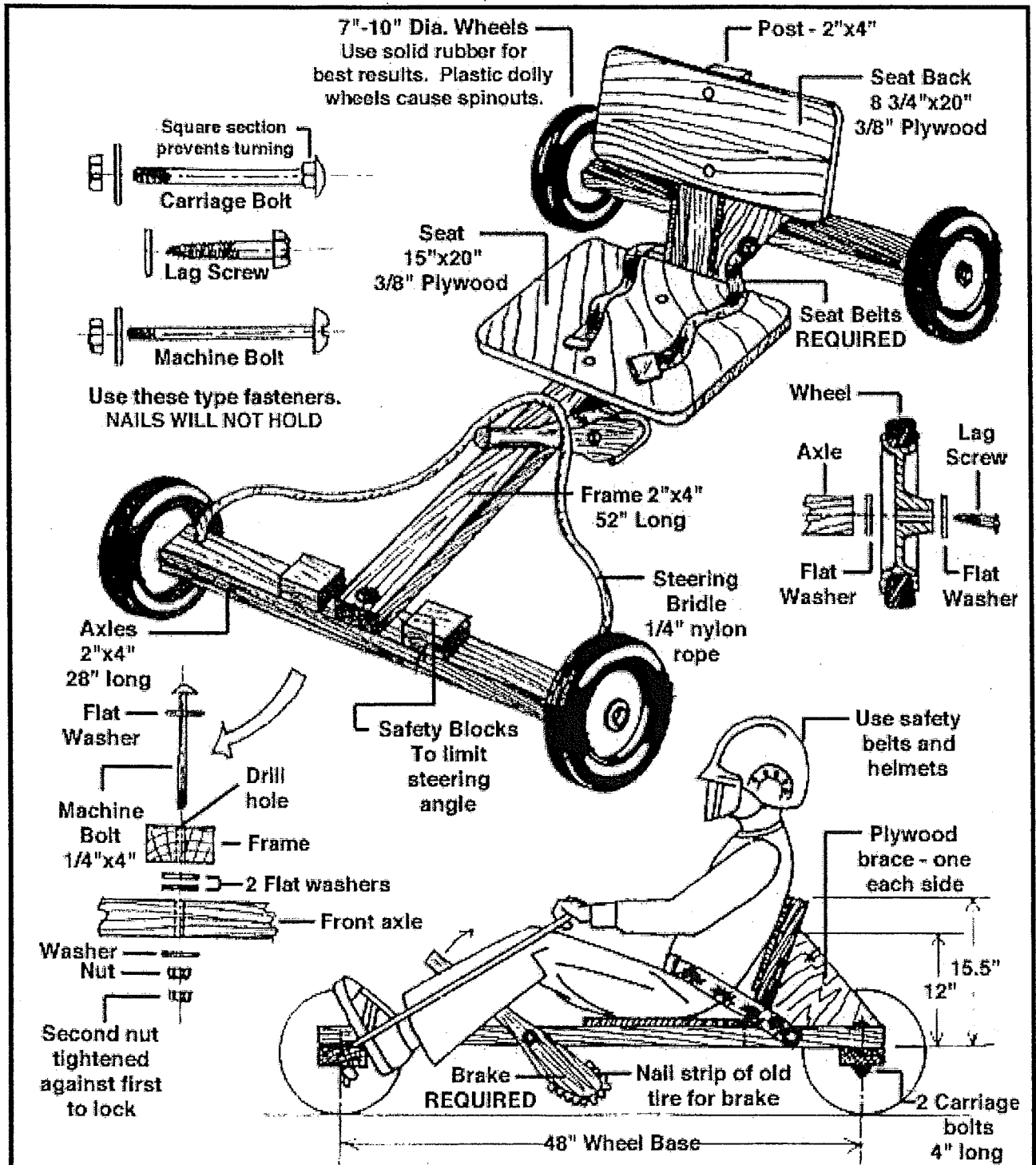
Date

Date

Telephone number(s) (area code included) _____

How to Build a Cubmobile

Cubmobile Blueprints:



Cub Scouts.....Get Ready to Race!!!



The 3rd Annual Five Rivers District Cubmobile Race will be held on Saturday, October 6 on West Main Street (2 blocks west of the Capitol Building) in Jefferson City. The practice runs will start at 8:00 am. The races will start at 9:30 am.

The registration form, parent/guardian consent form, race rules and information packet, cubmobile construction instructions, and cubmobile materials lists are all available on the council website at www.bsa-grc.org.

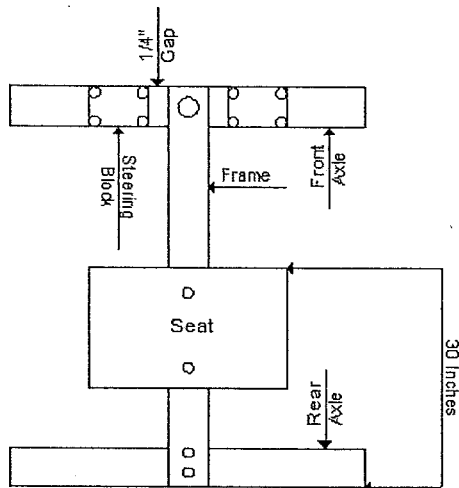
Changes from last year:

- We have a race theme – “Wild Wild West”. “Best of Show” will be judged based on demonstration of this theme. Cub Scouts can decorate their car and themselves as the Wild Wild West.
- Concessions will be available
- All new cubmobile cars must be built to the specifications in the Bear handbook under “Things That Go”. Follow the Cubmobile construction instructions. No deviations will be allowed.
- Cub Scouts can compete individually and as a team. Awards will be given to the fastest scouts in each rank and to the overall fastest cars/teams.
- Each pack should plan to provide a volunteer to assist with race setup and cleanup. Volunteers should arrive by 7:00 am on race day and plan to stay after the races and awards.

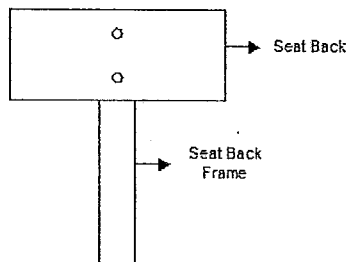
Instructions for Cubmobile Construction

Important Note: The following instructions are for building a basic cubmobile. If you plan any modifications for purposes of adding decorations, be sure to modify these instructions accordingly.

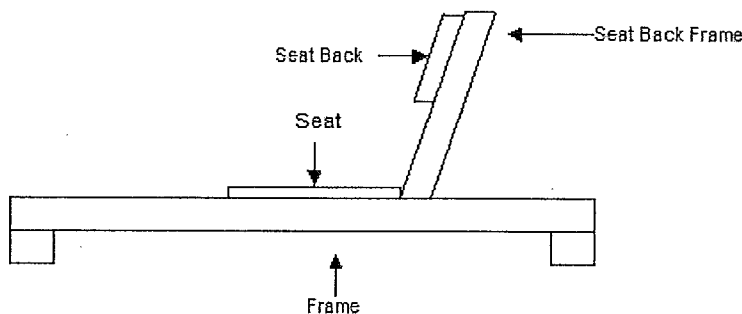
1. Cut one 52" 2X4 pine lumber for the frame.
2. Cut two 28" 2X4 pine lumber for the front and rear axles. Note that it is advisable to have a spare front axle and a spare rear axle.
3. Drill a 3/8" hole through the dead center of the front axle (14" from the end, 1 3/4" from the edge) for the steering bolt.
4. Drill 2 1/4" holes through the center of the rear axle (14" from the end, 1" from each edge) for the rear axle bolts.
5. Drill lead holes in the ends of the front and rear axles for the wheel bolts. The holes should be in the center of each end (1 3/4" from edge, 3/4" from top). Lead holes should be drilled to depth of at least 1 1/2".
6. Cut two 6" 2X4 pine lumber for the steering blocks.
7. Drill a lead hole in each corner of each steering block for the wood screws that will be used to attach the steering block to the front axle.
8. Cut one 15" X 20" piece of 1/2" plywood for the seat. Drill two 1/4" holes for attaching the seat to the frame. Each hole is 10" from the 15" side and 2" from the 20" side. You may want to use a scroll saw to round the edges of the seat.
9. Cut one 8 3/4" X 20" piece of 1/2" plywood for the seat back. Drill two 1/4" holes for attaching the seat back to the seat back frame. Each hole is 10" from the 8 3/4" side and 2" from the 20" side. Note: You may want to use a scroll saw to round the edges of the seat back.
10. Cut one 16" 2X4 pine lumber for the seat back frame. Cut one end of the seat back frame at an angle – this angle can be varied depending on how far you wish the seat to recline.
11. Cut two 16" X 16" pieces of 1/2" plywood for the seat back braces. Draw a line across each brace 1 1/2" from one edge. Align the angled end of the seat back frame with the drawn line at the front edge of each brace and draw an angled line the remaining length of the brace. Cut the brace along the angled line.



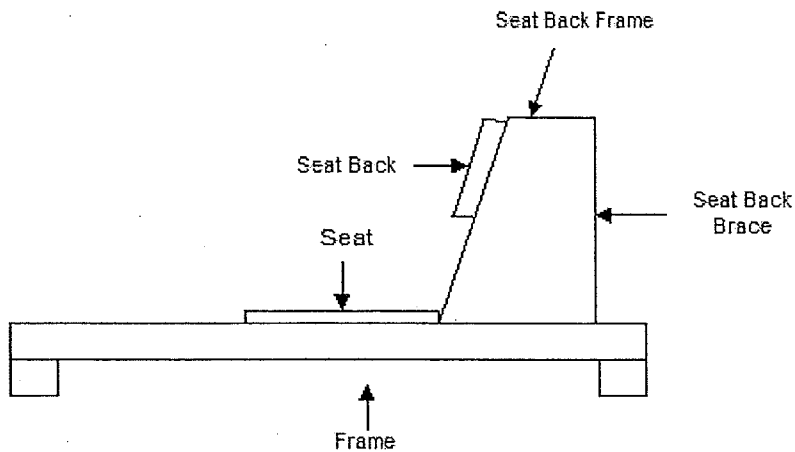
18. Align the seat back with the straight end of the seat back frame and continue the two $\frac{1}{4}$ " holes through the seat back frame. Attach the seat back to the seat back frame using two $\frac{1}{4}$ " carriage bolts, two washers, and two nuts.



19. Align the angled end of the seat back frame to the frame against the back edge of the seat. Attach the seat back frame to the frame using two $2\frac{1}{2}$ " screws through the frame into the seat back frame.



20. Place one seat back brace on the frame and seat back frame. The slanted edge of the seat back brace should be aligned with the front edge of the seat back frame. The bottom edge of the seat back brace should be aligned with the bottom edge of the frame. Use $10\frac{1}{4}$ " wood screws to attach the seat back brace to the seat back frame and frame. Repeat on the other side for the second seat back brace.



21. Attach the buckle ends to the seat belt strap. Wrap the seat belt strap under the frame just behind the seat and next to the seat back frame. Use two $\frac{1}{4}$ " lag bolts and washers to attach the strap to the seat back frame on each side.
22. Attach the brake to the frame using one $\frac{3}{8}$ " lag bolt and one washer. The brake should be positioned on the frame where it is comfortable for the scout to reach the brake handle. The bottom edge of the brake should also easily reach the ground when the brake handle is pulled. The position of the lag bolt in the brake handle will vary depending on the height of the wheels.
23. Drill two $\frac{3}{8}$ " holes in the front axle. Each hole is $2\frac{1}{2}$ " from the end and $1\frac{3}{4}$ " from the edge. Thread each end of the rope through a hole and make a knot in the rope end. The rope is used to steer and pull the cubmobile.
24. Paint and decorate the car.
25. Attach the wheels to the front and rear axles using four $\frac{3}{8}$ " lag bolts and eight $\frac{3}{8}$ " washers. Place a washer on each side of the wheel. The lag bolt should go at least two inches into the axle. The size and length of the lag bolt required will vary based on the width of the tire.
26. Test the car thoroughly to ensure it will support the weight of the scouts, steers correctly, and brake correctly. Cubmobiles should be tested BEFORE race day.

