**2022 Lake Erie Championship Pinewood Derby Rules**

**1.1 In order to race at the Lake Erie Council Cub Scout Championships, the participant must**

**satisfy one of the two membership requirements:**

➢ Either be Registered as a Cub Scout at some point since January 1st, 2021 or a 5th Grade Cub Scout who bridged (joined) Boy Scouts since September 1st, 2021.

*We are asking each Pack send the top 3 racers from each rank to compete.*

**1.2 Participants in the LEC Championships will be divided by the following age groups:**

➢ Youth in the Lion, Tiger or Wolf Division.

➢ Youth in the Bear, Webelos or Arrow of Light Youth Division

➢ The overall pack champion determined by the top 4 combined scores per unit added together.

**1.3 The car must be built for the current Pinewood Derby Racing Season*.*** *NO REPEATS or*

*REPAINTS.*

If you lack the tools or resources to cut out a car from a stock block of wood,

then we encourage you to attend a workshop hosted by your den, pack, district,

or council. Alternately, you may purchase a pre-shaped block and assemble it

with approved wheels and axles.

**1.4 A completed car purchased from a third party is not allowed.**

**1.5 The car may not be sent to third party facilities for tuning or other performance enhancements.**

**1.6 The youth advances, not a specific car.** Feel free to retune your car or even build a whole new

one! Many build a car for DESIGN at the Pack or District level and then build a new car for SPEED at

the Council level. *Each car needs to pass the pre-race inspection.*

**2.1 The main body structure(chassis) must be made of wood.** The car design may be enhanced by the

addition of other stable materials such as plastic or metal. Any additions must be firmly attached,

non-moving, and meet car size specifications.

**2.2 The car must meet the following specifications:**

**2.2.1 Width: not to exceed 2 3/4 inches**

**2.2.2 Length: not to exceed 7 inches**

**2.2.3 Weight: not to exceed 5.0 ounces on a scale accurate to 1/10 ounce**. For scales that have more than a single digit beyond the decimal point, the maximum weight is 5.0500

**2.2.4 Height: not to exceed 3 inches**

**2.2.5 Clearance: The wheels are the only part of the car allowed to touch the track.**

**2.2.6 Center rail width: Wheels must clear center guide rails, no less than 1 ¾ inches minimum.**

**2.3 Wheelbase: the distance between the center of the front and rear wheel must be no less than 4**

**inches.**

**2.4 Front: the front/leading edge of the car must be no more than 1 inch above the wheel lane of the track and be at least ½ inch wide at the center of the car.** *NO NARROW POINTED FRONT ENDS.*

**2.5 When placed in the starting position, no part of the car may protrude beyond the starting pin.**

**2.6 At least 4 wheels must be attached to the sides of the car body**. Each wheel must be attached to

the car’s wood chassis with a legal axle.

**2.7 Each attached wheel must not be angled(canted) more than 20 degrees from vertical.**

**2.8 The front most and rear most wheels must be positioned across the body from one another.**

**2.9 The complete inside and outside lettering of each wheel must be visible when the wheel is attached**

**to the body.**

**2.10 The following items are prohibited:**

**1. Springs**

**2. Starting devices or propellants**

**3. Electronic or lighting devices that interfere with the race electronics.**

**4. Liquids, wet paint, oil, sticky substance, or powders of any kind (other than axle lubrication)**

**5. Glass or excessively fragile parts**

**6. Bearings and or bushings**

**7. Hubcaps covering the nail head**

**8. Washers may be glued to the car body.**

**Washers/body treatments to help reduce friction ARE ALLOWED. Washers may**

**be between the body and the wheel, and the wheel and the axle head.**

**Body treatments(between wood chassis and wheel) may be things like sprayed on**

**graphite paint, Teflon tape, other slippery materials/waxes applied to the body.**

**The cost of small washers is very low and the experience of working with them**

**can be educational and fun. The washers may be glued to the car body.**

**3.1 Only official BSA wheels are allowed.**

**3.2 All lettering and numbering, both inside and outside of the wheel, must remain complete and be**

**visible with the wheel on the car.**

**3.3 The fluting, spokes and other markings on the outside wheel area must remain visible.**

“Fluting” refers to the small bumps on the outside edge of the tread.

**3.4 The wheel diameter must be no less than 1.16 inches.**

**3.5 The tread surface width must be no less than 7.5 mm.**

**3.6 The tread surface must be flat and parallel to the wheel bore. Therefore, the following modifications are prohibited:**

**1. Rounding of the tread surface**

**2. Grooving, H cutting, or V cutting the tread surface**

**3.7 The following wheel modifications are prohibited:**

**1. Removing material from the inside tread surface or the inside sidewall surface**

**2. Drilling holes in the tread, sidewalls, or spoke area.**

**3. Removing material from the sidewalls or Spoke**

**4. Filling wheel tread with any type of material**

**5. Filling the wheel bores and re-drilling the bore**

**4.1 Metal Axles with a nail head are required with an overall diameter of no less than .084 inches.**

**4.2 One-piece axles that extend through the width of the car to support both wheels are not allowed.You may use official BSA axles or after-market nail type axles from various**

**vendors. You may also polish and groove the axle provided that the journal portion of the**

**axle (the part the wheel rides on) is no less than .084 inches, roughly the same diameter as the original BSA nails.**

**5.1 Over application of lubricant, which results in excessive shedding onto the track is not allowed.**

**Lubricants you may use include but are not limited to: Graphite, Teflon, Nyoil,**

**and Krytox**. We encourage you to use VERY SMALL AMOUNTS of oil based lubricants such as

Krytox 100 instead of graphite because it does not damage the car’s paint and generally promotes a cleaner and safer work and race area. You can find information regarding the most effective use of Krytox 100 online and through workshop participation.

**6.1 Lead (Pb) weight, if used, must be completely sealed and safe from all possible contact with youth.**

**6.2 Drilling/Removal of lead weight is not allowed at the race or check-in venue.**

**6.3 Interior wheel weights are allowed as long as they allow for inspection of the interior of the wheels.**

**7.1 Each car must pass inspection by the Official Inspection Committee before it may compete. The**

**inspectors will disqualify any car not meeting these rules. Any adult or scout may appeal the findings**

**of the Inspectors to the Race Committee Chairperson, whose decision is final.**

**7.2 Every effort will be made to do the inspection without any altering of the car. If we can’t verify that the wheels have not been lightened due to interior wheel weights, air dams, fenders, or other reasons, we will ask YOU to take the wheels off for inspection.**

**7.3 After a car has passed inspection, only race officials may handle the car.**

**7.4 After check-in, adjustments are not allowed. Car repairs during the race are not allowed unless**

**authorized by the race officials.**

**7.5 Once Inspection is PASSED before the race, the car will not be re-inspected after the race.**

**7.6 Good sportsmanship and behavior is expected. Race officials may ask anyone not following this rule to leave.**