

2024 Mayflower Council Pinewood Derby Rules

Introduction

For 2024, the Mayflower Council will once again be holding a council-wide Pinewood Derby championship event, open to scouts from any of the packs in the council. Date, location, and other details will be provided at a later date.

The 2024 races will again offer two race classes per rank, “Stock” and “Pro-Stock.” The Stock class’ rules are slightly more restrictive than those of the Pro-Stock class. The intent is to allow cars built under different rule sets to participate in the council races, while separating into different classes builders applying more advanced techniques from those built under more restrictive rules.

Note that it is not necessary for *individual packs* within the council to support both racing classes. We anticipate most packs within the council will likely adopt rules that are compatible with *either* the Stock class rules *or* the Pro-Stock class rules.

In addition to the Stock and Pro-Stock classes, a non-competitive “Exhibition” class is available for cars that do not conform to either of the other two classes’ standards. Exhibition class cars will race with Pro-Stock cars, but will be ineligible for any speed awards. Acceptance of a car for Exhibition class is at the judges’ discretion.

Objectives

Our goal is to offer scouts an opportunity to see and compare other scouts’ efforts from across the council. While there will be modest awards presented for the fastest cars in each division, we hope to lessen the emphasis on competition. In any setting, only one car can be fastest, but many cars can be fast, and we wish to celebrate all our racers’ achievements. The fun (and the learning) of the Pinewood Derby should be accessible to all scouts.

Inspection Standards for Stock and Pro-Stock Classes

1. **DIMENSIONS:** The car, including all decorations, must conform to the following size and weight restrictions:

- **WEIGHT:** Not to exceed 5 ounces and having no loose weights.

NOTE: The weight of a car can be affected by humidity, as wood can absorb moisture from the air. It's possible for a car that weighed 5.0 ounces in January to weigh 5.1 ounces in June. The reading of the official scale shall be conclusive.

- **LENGTH:** Not to exceed 7 inches, including wheels, fenders, etc.
- **HEIGHT:** Not to exceed 5-1/2 inches.
- **WIDTH:** Not to exceed 2-3/4 inches, including wheels, fenders, etc.

2. **CENTER RAIL CLEARANCES:** The center rail of the track has a width of approximately 1-5/8" and a height of 1/4". Cars with an underbody clearance of less than 3/8" are not assured to clear the rail at all points along the track, but this is not a disqualifying condition.

- For **Stock** class, the car body must be full 1-3/4 inch width at the point of axle attachment.

NOTE: Narrowing of the body at other points is allowed, where desired.

- For **Pro-Stock** class, the body may be narrowed at any point, if desired.

NOTE: Cars with narrowed bodies may be prone to "pinching" the center rail, which may slow the car, but this is not a reason for disqualification.

3. **AGE OF CAR:** Construction of the car must have begun no earlier than the start of the current school year.

4. **MATERIALS:** Only official Boy Scouts of America, or BSA-licensed, axles, wheels and body are to be used. Non-BSA-licensed axles, wheels, or bodies from other kit brands are not allowed. Racers may be asked to attest, on their honor, that their car does not incorporate any axles or wheels that have been modified by a third party (e.g. aftermarket "performance" parts bought online), even if the original parts were BSA-licensed.

NOTE: BSA-licensed colored wheels are permissible. Weights, decorations, and/or fenders may be from non-BSA sources.

5. **RULES IN THE BOX:** Wheel bearings, washers and bushings are prohibited. The car shall not ride on springs. The car must be free-wheeling, with no starting devices.

6. **WHEEL MODIFICATIONS:**

- Wheels may not be packed or enclosed.
- Hub caps are not permitted.
- The hub and/or bore may be sanded and/or polished to improve the surface(s) which contact the axle or body.
- The weight of the wheel shall not be materially increased or decreased. No material such as glue, fingernail polish, or tape, may be added to the wheel.

NOTE: Wheel bores may NOT be filled and re-drilled.

- For **Pro-Stock** class only, the outside tread may be lightly sanded or shaved to remove defects. However:
 - The beads along the outside of the tread must remain fully intact, and total wheel diameter may not be reduced below 1.170 inches (29.72mm).
 - The outer wheel surface must not be reshaped or have the contour changed. The tread surface must remain flat and parallel to the wheel bore and have a thickness of 0.036 inches consistently across the tread.

7. **LUBRICANTS:** Axles may only be lubricated with dry powdered lubricant (e.g., Teflon or graphite). NO lubricating oil may be used; judges may require application of graphite if the use of oil is suspected.

NOTE: Lubricants may NOT be applied inside the building. All lubricants must be applied prior to check-in.

8. **FOULING OF THE TRACK:** Cars with wet or sticky surfaces will not be accepted.

9. **AXLE PLACEMENT:** Axles must be attached directly to the car body.

- For **Stock** class, axles must be placed in the pre-cut slots. If desired, the slots may be redressed (as described on the in-box instructions). The slots may optionally be filled (e.g. with epoxy).

- For **Pro-Stock** class, axles may alternatively be placed in holes drilled into the body, without restriction on wheelbase.

10. **NOSE:** No part of the car nose may extend beyond the back of the starting pin when the car is positioned on the track.

NOTE: This rule prohibits both concave front ends (in which the sides extend past the center of the nose) and “barge” noses (in which the nose extends over the top of the starting pin). Racers may assume the starting pin to extend at least 1-1/2” above the surface of the track.

Car Handling Procedures

All cars must pass an inspection to qualify for the race. Failure to follow the rules will result in disqualification.

Once a car is checked in, it will remain in the possession of the race officials until it is returned to the scout after the race. Scouts may not modify the car after check-in.

Cars that jump the track will be given a restart. Cars that jump the track a second time immediately after the restart will be disqualified.

In the case of a breakdown, race officials will endeavor to give the scout an opportunity to repair the car and recheck-in to complete the races. However, timing of the races and the length of time required for repair may preclude this opportunity. Cars that cannot be repaired quickly may be disqualified at the discretion of race officials.