Mayflower Council 2019 Pinewood Derby Rules

- **Cars must have been built this year by a current Cub Scout.**
  Each racer must be (or have been) a registered Cub Scout at some point in the current scouting year. This includes scouts who have transitioned from the Cub Scout to the Boy Scout program in the current scouting year.

  Cars must have been built in the current scouting year.

  Cars must have been constructed by the racer, possibly with adult help. Cars purchased whole or in part from another racer, company, internet entity, or other source are prohibited.

- **Official BSA Kits Only**
  Cars must be constructed using an Official BSA Pinewood Derby Kit or official BSA components purchased through an authorized BSA retailer such as a Scout Shop. Non-official BSA parts sold by an official BSA retailer are prohibited.

  Only official BSA Pinewood Derby wheels and axles may be used.

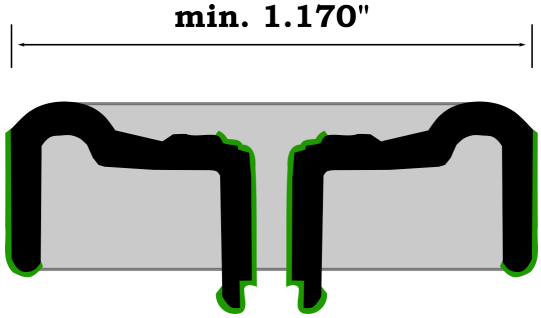
  Pre-cut third-party kits, even if sold under BSA license (e.g., those made by Revell), are ineligible to compete in the council race.

- **Dimensions and Weight:**
  - Width, including wheels, axles, and any fenders or cosmetics, must not exceed **2¾ inches**.
  - Overall length of the car (including fenders, wheels, or any other attachments) shall not exceed **7 inches**.
  - The weight of the car shall not exceed **5.00 ounces**, as measured on the official race scale.
  - In order to clear the track's center guide rail, it is ***strongly recommended*** (but not required) that:
    - the clearance under the car body be at least **⅜ inch**, and
    - the wheels be set at least **1¾ inches** apart, side to side.
  - No part of the car may protrude beyond the track start gate's starting pin.
  - In order to ensure the car can pass under the finish line timer, the car at its highest point must not extend more than **3 inches** above the track surface.

- **Additional Requirements:**
  - Wheel bearings, washers, and bushings are prohibited.
  - The car shall not ride on springs.
  - Only dry lubricant is permitted.
  - Details, such as steering wheel and driver are permissible as long as these details do not exceed the maximum length, width, and weight specifications.
  - The car must be free-wheeling, with no starting devices.
  - The car must be exclusively gravity-powered: no magnets, propellants, or propulsion devices are allowed.

- The car must not be wet or sticky (in the judges' sole opinion).
- The car must be likely (in the judges' sole opinion) not to foul the track, e.g., by extreme over-lubrication.

- **Wheels**
  - Only official BSA Pinewood Derby wheels are allowed. (Colored official wheels are allowed.)
  - Wheels must not be significantly lightened or reshaped, but light sanding, shaving, and/or polishing of (1) the outer wheel tread, and/or (2) the axle bore and its surrounding surfaces are permitted.
    - Workable surfaces are shown in green on the diagram. All other surfaces must remain unaltered.
    - Wheel diameter must be at least 1.170 inches.
    - Lettering and numbering on wheels must remain complete and unaltered.
    - Fluting and other markings on outside of wheel must remain visible and unaltered.
    - The tread surface must remain flat and substantially parallel to the wheel bore. The outer wheel surface must not be reshaped or have the contour changed, e.g., in an attempt to minimize tread contact or alter aerodynamics.
    - "Significant" lightening or reshaping is in the judges' sole opinion.



  - NO MATERIAL may be removed from the inside wheel tread, or sidewall.
  - No material (e.g., glue, fingernail polish, tape) may be added to the wheel.
  - Coning the hubs is allowed.
  - Truing the inside tread edge is allowed.
  - Wheel bores may be polished or tapped, but may NOT be filled or re-drilled.
  - It is not required that all wheels make contact with the track.

- **Axles**
  - Only official Cub Scout Pinewood Derby axles are allowed.
  - Oil lubricants must not be used. Only dry, powdered lubricants (e.g., graphite) may be used.
  - No axle coatings or plating of any kind are allowed to be added or applied to the axles. (Note that graphite lubrication is not considered an axle coating.)
  - The following axle modifications are explicitly allowed:

- Axles may be straightened, filed, sanded, polished, and/or bent.
- Axle heads may be beveled and/or tapered.

- Axles may be freely mounted:
  - Axles may be mounted in drilled holes or custom-cut slots in the car body. It is not required to use the original slots in the car body.
  - Axles may be canted (i.e., installed at an angle that creates camber and/or toe).