

2021 NORTHAMPTON COUNTY DISTRICT PINEWOOD DERBY® RACE GUIDE

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Introduction

*The purpose of the Pinewood Derby® Race is to
help the Cub Scout build a team relationship with their adult partner,
to experience the sense of accomplishment and the excitement of competition,
to learn Win/Lose good sportsmanship, and
to have fun.*

Please read the following together.

There are few instances of competition in the Cub Scout program.

And while each of us wants to see our car win,

It is always a good idea to always remember the Cub Scout Motto,

"Do Your Best"

and practice good

Sportsmanship

Three skills that the Cub Scout can expect to learn from the Pinewood Derby® experience are to build a car (the more creative the better), and to follow the rules to build that car (or any other future project) and the proper behavior expected during the race (or any other group competition).

The first expectation is to recognize that each person's building skills are different. This includes your parents. Be patient with yourself and others during construction. Do not be afraid to ask for help. To the experienced Racing Teams, share your knowledge and skills with less experienced Teams. Make the time and focus on building YOUR car so when it is done you will be proud of the results. Remember, you and your friends are individuals first and racers second. These ideas can be called having respect for yourself and others.

The second expectation is for everyone to follow the rules *especially* when no one is watching you. Make time to learn the details of the rules. Then follow the rules. If you question a rule, ask the right person for the answer in a timely manner. When everyone follows the intention of the rules then no one should feel they are being treated unfairly. You should be proud for being truthful and moral. This is a demonstration of your honesty.

The third expectation is to remember that there are winners and losers in every competition. You must accept this when you choose to compete. Competition makes the Race exciting. There may be times when you win and feel happy, and times when you lose and feel sad. Being a winner is easy and losing is sometimes hard. If you win, do not brag or gloat. If you lose, do not be jealous or bitter. You should be able to say, "I did *my* best" and be satisfied with the results. You should appreciate and be happy for someone else when they run a good race or build a neat car.

This is good sportsmanship.

District Rules Evolution and Expectations

Over the past decade the BSA Pinewood Derby® (PWD) Race has advanced a great deal and far beyond the local Pack level by way of the internet's help at spreading relevant (or not) information. The 2021 restructuring of the Districts within our Minsi Trails Council has also brought a more sudden change. Not to mention the changes caused by COVID-19. These events have created the opportunity to introduce the new PWD Race Rules for our new Northampton County District (NCD). These new Rules are designed to limit confusion for the Cub Scout, their Akela, and their Pack. The 2021 NCD PWD Rules (Rules) are nearly identical to the Stock Division Rules of the NYC World Champion Pinewood Derby® Race (NYC Race), a nearby leading national race.

Our new District includes Packs' from the former Forks of the Delaware, North Valley, and South Mountain Districts. These former Districts' old PWD Rules included the legacy rules found in the BSA PWD Car Kit box. However, each District had a few small variations of non-legacy rules. But overall, the Rules were very similar to one another and fit well with the NYC Race Rules. Thus, the new NCD PWD Race Rules is the merger of our former Districts' PWD Race Rules with a national Race rules.

To further reduce confusion, this 2021 NCD PWD Guide (The Guide) can be used by the novice to the experienced Racing Team to understand the intentions of the 2021 NCD PWD Rules. This Guide is not the Rules. This Guide is the expanded details of the Rules with suggestions and hints, 10 pages of illustrations, and 8 pages of questions and answers (Q&A). Also included, for those moving onto the District Race, are the Congratulations form, the actual Registration and Check-In Checklist form used at the 2021 NCD PWD Race, and the 2021 NCD PWD Race Operations Rules.

In the past Packs were free to follow their own rules. Most Packs followed their former District Rules with slight modifications for specific needs but still enabling their best cars to advance to the District PWD Race. Today Packs are still free to follow their own rules or to follow the NCD PWD Rules with or without modifications. Also, Packs may choose to attend or not attend the NCD PWD Race. What this means to all Racing Teams is to be aware of these differences. The NCD PWD Rules and this Guide will help all skill levels to learn and also have fun at the Pack race while allowing the competitive Racing Team to advance to the NCD PWD Race and maybe beyond. After the NCD PWD Race and at the discretion of the Racing Team, the 3 fastest cars per Cub Scout Rank are eligible to advance to the NYC Race. It is usually held on the last Saturday of June. There is no Minsi Trails Council Race.

On the surface the purpose of a District Race is to determine which cars are the fastest. However, the NCD Race Committee's underlying goal is for everyone within the District to come together and to have fun while the Scouts learn and practice good sportsmanship during a friendly competition.

To *compete* for the chance to earn a speed trophy at the 2021 NCD PWD Race your car must meet 2021 NCD PWD Rules. So, to the competitive Racing Team: learn the rules, understand the rules, and review this Guide. Reach out to the right people to answer your questions. Attend/review the virtual Champ Camps via www.scoutshop.org/pinewood-derby. The PWD experience is like life, the more you put into it the more you get out of it. By being in any race/game, *you are* expected to learn and to follow the Rules and to follow/respect the decisions of the NCD Race Committee/Judges/Referee.

If during the Check-In the car does not comply with the NCD PWD Rules it *MAY* be adjusted to do so. This adjustment(s) is determined on a case-by-case basis by the NCD Race Committee. Essentially, if the adjustment(s) does not enhance the car's performance the car *should* pass. However, if the car is unable to comply with the Rules but it is safe to race it can still *participate* in the race. However, the car *is not* eligible to *compete* for a speed trophy. Once you are at the NCD PWD Race, the Race Committee wants your car to race so you may experience and hopefully still enjoy the District Race.

Overview of the 2021 Northampton County District (NCD) Pinewood Derby® (PWD) Race Rules

The 2021 NCD PWD Race is scheduled virtually on Sunday, May 23 at the Wind Gap Fire Co. Social Hall. Currently each Pack may send up to 5 Racers with their cars. Due to COVID-19, look for the latest information at www.minitrails.org & select "Districts".

To *compete* for a speed trophy at the NCD PWD Race your car must comply with the 2021 NCD PWD Race Rules which is the checklist on the other side of this sheet, *The Checklist Rules*. All cars at the NCD Check-In will be inspected using this checklist. Listed below is nearly every violation missed by prior years Racing Teams.

Refer to scoutshop.org/pinewood-derby for virtual PWD Champ Camps that were offered by National BSA. To learn more as able, attend or create a PWD workshop or find that experienced Racing Team. But remember to be careful to weed out non-relevant information from the internet or in person.

***** ASK QUESTIONS WELL BEFORE YOUR PACK'S RACE *****

Reach out to your Pack PWD Chair for clarification of your Pack's rules & the race.

If desired, refer to the *2021 NCD PWD Guide* for clarification of the NCD PWD Race Rules.

For the final answer to questions about the 2021 NCD PWD Race & its Rules, reach out to the NCD PWD Chair, Chris Van Camp at 513-253-8174 (M) or at MTCNCDPWD@gmail.com.

If you are alert to the violations below & follow the Checklist Rules, you *should not* have a problem during the NCD Check-In inspection. However, if the car does not pass, the Racing Team (the Cub Scout & their Akela), MAY be allowed, with approval from the NCD Race Committee, to adjust the car as needed on a case-by-case basis. If the car still cannot pass the inspection & it is safe, it can *participate* in the 2021 NCD PWD Race. However, the car is *not* eligible to win a speed trophy, but it *IS* eligible to win a specialty trophy.

Specialty Trophy Categories

Best Cub Scout Theme Most Patriotic Funniest Best Not A Car Most Unique

These missed details cause 99% of the violations at Check-In.

- 1) The car must be safe to race. The car cannot interfere with the other cars & cannot have ANY loose or fragile or dangerous parts, etc. An unsafe car, to person or property, cannot even *participate* in the NCD PWD Race.
- 2) The NCD scale is probably more precise than your Pack's scale. So, BE PREPARED to remove a little bit of weight (e.g., by use of putty in a hole) to comply with the maximum weight of 5.00 ounces.
- 3) The ENTIRE car MUST meet all the dimension requirements: heights, lengths, & widths.
- 4) If anything is added to the car's underside it must be no more than 1/8" thick & no more than 1 1/8" wide & centered. Do NOT cover the axle slots. (Try to put weight inside or on top of the back 1/3.)
- 5) The car's "core" MUST be constructed using the components from the Official BSA Pinewood Derby® Car kit box #17006 (2018© &/or 2012©) &/or #17000 (2018© &/or 2009©). The components in these boxes include:

The BSA Pinewood Block The 4 BSA Nails The 4 BSA Wheels

 - a) *Alternatives*: only from a BSA Scout Shop, the BSA Wedge & the BSA Tubes containing Wheels & Nails.
 - b) Do NOT use pinewood blocks, nails &/or wheels from ANY other sources. No outsourcing.
 - c) If a component breaks, ONLY go to your Pack PWD Chair &/or a BSA Scout Shop & get another legal Kit or Wedge or Tube of Wheels & Nails. Do NOT go to any other sources, they will NOT pass the inspection.
- 6) The BSA pinewood block's factory cut slots MUST be used by the axles. NO OTHER axle slots permitted.
- 7) The axle tips MUST be visible to inspect. Do NOT cover tips. If an adhesive is used, make it clear.
- 8) All 4 wheels MUST be BSA Wheels. (Colored wheels are allowed.) Only *LIGHT SANDING* to remove MINOR imperfections is permitted. *No alterations!* Nothing removed! Nothing added! No outer coverings. (Fenders are allowed.) ALL 4 wheels MUST be in CONTACT with the lane at the same time throughout their full rotation!
- 9) ONLY a DRY graphite-based lubricant is permitted. It cannot be applied after the car has past inspection.

The 2021 Northampton County District (NCD) Pinewood Derby® (PWD) Checklist Rules

Weight/Overall Inspector

- | | |
|--|--|
| _____ Guided by the Scout Law & Oath
(Have Fun & Do Your Best) | _____ Cub Scout should be in Class A Uniform
(Represent Your Pack Pride. If Possible, Bring the Pack Flag/Base) |
| _____ Car Submitted by Registered Scout
(ALL Lions to 2021 Former AOLs with Their Racing Team) | _____ Scout Built This School Year from Scratch
(NO Repeats, Repaints, Old Components, Professional, Etc.) |
| _____ Unaltered Since Pack Inspection
(ONLY More Graphite & Wheel Cleaning Permitted) | _____ BODY Component is a <u>BSA PWD BLOCK!</u>
(NO Other Material, Blocks, Kits, Prefinished, Professional, Etc.) |
| _____ No Sticky Substance
(No Excess Glue, Wet Paint, Tape, Magnets, Etc.) | _____ If Lights/Sound Attached, Turned Off
(However, Lights & Sounds are Encouraged for Creativity) |
| _____ No Moving Weights or Liquids
(All Parts Solid, Secure, & Safe) | _____ No Fragile or Loose Parts
(No Glass, Mercury, Dangerous Parts, Etc.) |
| _____ <u>WEIGHT ≤ 5.00 OUNCES!</u>
(Not Grams. Up to 5.004 Ounces Permitted. NOT 5.005) | _____ <u>GRAVITY POWERED ONLY!</u>
(NO PROPULSION SYSTEM. PERIOD!) |

Dimensions Inspector

- | | |
|--|--|
| _____ <u>OVERALL LENGTH = 7"</u> (Equals)
(Caution Block's Length, Cutting Ends, Adding Lights, Pipes, Etc.) | _____ Height ≤ 6" (Lower the Better)
(NCD PWD BestTrack® Champ Timer Clearance is 6 1/2") |
| _____ <u>OVERALL WIDTH ≤ 2 3/4"</u>
(Including Wheels & the Axle Heads & Fenders, Etc.) | _____ <u>WIDTH Between Wheels ≥ 1 3/4"</u>
(Inside Edge <i>Between Wheels</i> Using Same Axle Slot) |
| _____ Wheels Do Not Extend Beyond Body
(Wheels MUST Remain Behind PWD Block's Front & Rear Ends) | _____ No Protrusion Beyond Starting Pin
(NOTHING May Extend Beyond the Starting Side of the Pin) |
| _____ WHEELBASE LENGTH = 4 3/8"
(Do NOT Make New Axle Slots or Extend Wheelbase) | _____ Lengths: Front & Back are 1 5/8" & 1"
(From Each Associated Axle Slot to the PWD Block Ends) |
| _____ Underside Attachment Width ≤ 1 1/8"
(Centered & NO Sharp &/or Abrasive Material) | _____ <u>GROUND CLEARANCE ≥ 3/8"</u>
(NO MORE than 1/8" of Parts Added to Underside of Car) |
| _____ Bottom of Nose (Front) ≤ 1" High
(Up Curved Nose Allowed) | _____ Nose (Front) Width ≥ 1/2", Centered
(No Pointy Nose) |

Axles Inspector

- | | |
|---|--|
| _____ <u>AXLES are 4 BSA PWD NAILS!</u>
(NO Other Axles. No Prefinished, Professional, Etc.) | _____ <u>ONLY DRY GRAPHITE-Based Lube!</u>
(NO OIL! No Liquid Lubricant! PERIOD!) |
| _____ 2 Wheels & 2 Axles per Axle Slot
(Each Axle's Pair of Wheels MUST be Across from the Other) | _____ Both Original Axle Slots Used & Visible
(ONLY Adjustments Allowed: True Slots & Pre-Drill to Fit Axles) |
| _____ Smooth (if Desired) Unaltered Axles
(<u>ONLY</u> Filed, Sanded, Polished, & Graphite Permitted) | _____ Each Axle Tip Visible (Do Not Cover)
(Caution the Clarity of Adhesive If Used) |
| _____ <u>NO BEARINGS/BUSHINGS/WASHERS!</u>
(ONLY Axle, Wheel, PWD Body, & Graphite Permitted) | _____ <u>NO SPRINGS/SUSPENSION!</u>
(PERIOD! Not Even the Body) |

Wheels Inspector

- | | |
|---|---|
| _____ <u>WHEELS are 4 BSA PWD WHEELS!</u>
(Colored Wheels Allowed. No "CHINA", Prefinished, Professional, Etc.) | _____ <u>NO WHEEL ALTERATIONS!</u>
(ONLY Adjustments Allowed: Polish Bore, Hubs, & Tread) |
| _____ Tread is Flat & Parallel to Bore
(NO Reshaping Tread at ALL. Lattice MUST Face Outward) | _____ NO MATERIAL ADDED Except Graphite
(NO Inside/Outside Cover, Hubcap, Paint, Nail Polish, Etc.) |
| _____ Correct LETTERS/NUMBERS Intact
(BSA / PINEWOOD DERBY®) (OFFICIAL BSA / # / MADE IN USA) | _____ Outside FULLY Intact & UNALTERED
(Small Dotted, Bumps Along Tread & Sidewall. Lattice Also) |
| _____ <u>NO MATERIAL REMOVED IN/OUT!</u>
(NO Lathe, Narrow, Lighten, Hub Stepdown Removal, Etc.) | _____ ONLY LIGHT SANDING Permitted
(ONLY TO REMOVE <u>MINOR</u> SURFACE <u>IMPERFECTIONS!</u>) |
| _____ NOTHING but 4 Wheels Contact Lane
(Wheels NOT Required to be Flat on Track. Canted Allowed) | _____ <u>NO RAISED WHEEL! PERIOD!</u>
(NO GAP Under Any Wheel. Test on Smooth Rigid Flat Surface) |

General Rules Explained

- 1) Have fun and do your best.
- 2) The Scout Law and Oath are the guiding principles for this friendly competition.
- 3) Good behavior and good sportsmanship are expected by all attendees.
All decisions of the NCD PWD Race Committee are final.
Anyone not following these rules may have their car disqualified and/or may be asked to leave.
- 4) Each Pack may develop rules and operate their PWD race as desired.
The NCD PWD Rules only governs cars and Cub Scouts that attend the NCD PWD Race.
- 5) Each Pack may send up to 5 Cub Scouts (Racers) and their eligible cars to the NCD PWD Race.
- 6) ***** ASK QUESTIONS WELL BEFORE YOUR PACK'S PWD RACE. *****
Reach out to your Pack PWD Chair for clarification of your Pack's rules and the race.
If desired, refer to this *2021 NCD PWD Guide* for clarification of the NCD PWD Race Rules.
For the final answer to questions about the 2021 NCD PWD Race and its Rules, reach out to the *NCD PWD Chair, Chris Van Camp at 513-253-8174 (M) or at MTCNCDPWD@gmail.com.*
- 7) To take part in the 2021 NCD PWD Race the youth must be a registered Scout with a NCD Cub Scout Pack at some point since January 1, 2021. The Scout must also have participated in their 2021 Pack PWD race as a registered Cub Scout.
- 8) An Arrow of Light (AOL) Cub Scout is permitted to race a car at the 2021 NCD PWD Race even if they have transitioned as a registered Scout to a BSA Troop by Sunday, May 23, 2021.
- 9) The Cub Scout shall, within their own abilities, build most of their OWN car. The Cub Scout's adult partner(s), the Akela, is encouraged to supervise, guide, and assist the Cub Scout. Scout's honor.
- 10) The whole car must be built from scratch using raw components and parts during and for the current PWD racing season (September 2020 through June 2021). The car's parts are anything that is not the car's components. The car's components are the pinewood block, the 4 nails, and the 4 wheels. Together the components are called the car's "core".
- 11) The car's core **MUST** be from an Official BSA Pinewood Derby® Car Kit (Kit) and/or from Official BSA component kits (Wedge and Tubes) from an approved BSA Scout Shop (e.g., Minsi Trails Council Scout Shop) or www.scoutshop.org. **No Exceptions.**
 - a) The 2 **Primary Kits**: item # 17006 that have copyrights of 2018© or 2012© (Illustrations 4 and 5)
 - b) The 2 **"Gift Wrapped" Kits**: item # 17000 that have copyrights of 2018© or 2009© (Illustration 6 and 7)
 - c) Additionally, only the following 11 component kits are permitted:
 - i) The BSA Pinewood Block Alternative: BSA Pinewood Derby® Pre-Cut **Wedge** Kit: item # 614417 with copyright 2011© (Illustration 8).
 - ii) Any color combination of the BSA Wheels with BSA Nails packaged together in a **Tube** in the BSA Wheels and Axles Kits with Item # (no copyright years) (Illustration 9):

(1) Black	17553	(6) Glow (White)	647053
(2) Ragin' Red	17554 (discontinued 2018)	(7) Green	647054
(3) Screamin' Yellow	17555 (discontinued 2018)	(8) Pink	647055
(4) Blazin' Blue	17556 (discontinued 2018)	(9) Purple	647056
(5) Outrageous Orange	17557 (discontinued 2018)	(10) Electric Blue	647826

- 12) Previous years and pre-finished cars are prohibited. Previous years components used for this season's racing in whole or in part are prohibited. Previous years parts should not be reused. Any aftermarket car kit or aftermarket components are prohibited. Cars and/or components cannot be sent to and/or received from third parties for construction and/or tuning and/or other performance enhancements.
- 13) The car's appearance must be BSA Cub Scout appropriate.
- 14) The car MUST be safe to race. The car MUST not purposely interfere with the other cars. The car MUST not cause injury or damage to persons, the track, and/or the facility.
- 15) The Scout should wear their current Class A uniform to the 2021 NCD PWD Check-In.
- 16) The Scout and at least 1 adult partner, an Akela, is the Racing Team. The Team *shall* be present via the internet during the 2021 NCD PWD Race and MUST use the same unaltered and complete car that was built and raced at their 2021 Pack PWD race.
- 17) The 2021 NCD PWD Race is expected to use a 4-lane 42-foot Best Track® aluminum track (Illustrations 2 and 3) with a manual spring release starter pin in concert with a *The Champ* electric timer (timer) that is managed by the GrandPrix Race Manager™ software (software).
- 18) This rule is for all cars but mostly for the up to 5 cars per Pack that move on to the 2021 NCD PWD Race. Once your car is accepted at your Pack's Check-In it cannot be altered or modified or fixed or repaired, etc. *This is the reason for asking questions well before your Pack's PWD race.* ONLY the following 3 exceptions are allowed.
 - a) If your car was damaged *during* your Pack race, it may be repaired, only to fix the damage, and only in the time given *during* the Pack race. Thus, NO further repair after the Pack race is permitted.
 - b) You may reapply the same graphite, or graphite blend, that was used for the Pack race to the attached racing wheels and racing axles before the NCD PWD Race Check-In inspection.
 - c) You may clean debris off of the racing wheels before the NCD PWD Race Check-In inspection.
- 19) The NCD PWD Chair reserves the right to amend, adjust, omit, and further clarify the rules as needed. Amendments to the rules will be published in as timely a fashion as possible to minimize impact to the day of the 2021 NCD PWD Race.
- 20) Finally, due to COVID-19 and its ever-changing restrictions, Rules associated with the Race operation are subject to change up to the day of the Race. For the latest information on all things 2021 NCD PWD refer to www.minsitrails.org and hover over "Districts" in the blue banner and select the "Northampton District" link and under the "Upcoming Events" select the "Northampton District Pinewood Derby" link.

Examples of Prohibited Items

- 1) Aftermarket components: pinewood blocks or axles or wheels used for racing.
- 2) Axles and wheels attached to any device that mechanically alters rotation or spin.
- 3) Solid one-piece rod style axles.
- 4) Axle guards. Avoid even clear axle guards.
- 5) Liquid lubricants actively wet or dried.
- 6) Bearings, bushings, nylon shims, washers, etc.
- 7) Springs or suspension systems.
- 8) Moving weights or liquids.

- 9) Wheel weights, wheel well weights, inner wheel air dams (also known as air deflectors or air shields), inner or outer wheel covers – clear or otherwise, or any item internal or external to a wheel.
- 10) Wet paint or sticky substances.
- 11) Loose objects on or in the car. All weight (items) must be securely fastened or embedded in or on the car.
- 12) Glass or excessively fragile or dangerous parts.
- 13) Sharp objects or abrasives on the underside of the car.
- 14) Electronic or lighting devices in use during the Race. Lights (Illustration 17) may be physically on the car; however, they must be turned off. The lights are turned off to avoid possible interference with the LED light at the finish line.

Car Weight and Dimensions Rules Explained (Illustration 10)

- 1) The car's overall weight must not exceed 5.00 ounces measured on a scale accurate to 1/1,000th of an ounce. An overweight car must be reduced to 5.004 ounces or less before being accepted. The official Race Scale is final. The NCD PWD Scale is a jeweler scale calibrated with weights annually certified by Northampton County Weights and Measures. Big speed hints: weight is the car's "engine". The closer the weight is to 5.00 ounces the better the performance. Place the bulk of the weight inside the car or on top and in the back third. Ideally the finished car's Center of Gravity (COG) should be 1 inch to $\frac{3}{4}$ inch in front of the rear axle slot. Less than $\frac{3}{4}$ inch improves speed but at the cost of control (alignment).
- 2) All weight (parts) must be securely fastened on or embedded in the car.
- 3) The car must be freewheeling. The ONLY source of power is gravity acting on the weight.
- 4) The car's core consists of the *Components*: the BSA pinewood block (or BSA wedge), the 4 BSA wheels and the 4 BSA nails, everything else is a *Part*. A Part is further defined as, but not limited to, accessories, attachments, cosmetic, decals, details, drivers, glue, graphite, non-racing nails, non-racing wheels, paint, steering wheels, tape, weights, etc. Parts do not need to be from a BSA source. Anything added to the car must be within the overall weight, heights, lengths, and widths limits.
- 5) The car's overall height cannot exceed 6 inches due to the height of the finish line timer. Note: be aware of your Pack's track's finish line device. Your Pack may require a lower height. Speed hint: the shorter the height the better the performance.
- 6) The car's overall length must be 7 inches. The pinewood block's factory cut slots set the car's wheelbase at $4 \frac{3}{8}$ inches, center to center. These pre-cut slots also define the underside of the car. One slot is and must be 1 inch from one end of the car. The other slot is and must be $1 \frac{5}{8}$ inches from the other end of the car. With these length requirements, cutting off 1 end of the car and adding this cut piece to the other end of the car is not permitted. So ...

$$\begin{array}{rcl}
 & & 1 \text{ inch from one end of the car is an axle slot} \\
 + & & 4 \frac{3}{8} \text{ inches for the car's wheelbase between the axle slots} \\
 + & & \underline{1 \frac{5}{8} \text{ inches from the other end of the car is the other axle slot}} \\
 = & & 7 \text{ inches overall (Illustrations 4, 6, and 8)}
 \end{array}$$
- 7) Either end of the pinewood block may be the front of the car. Speed hint: the end of the block that measures 1 inch from the axle slot should be the car's rear.

- 8) If the car has side fenders (Illustration 16), they cannot extend beyond the front or rear of the car body proper. For definition of “car body proper” refer to Q&A Section Q25.
- 9) To avoid interfering with the other cars, the car’s overall width, including wheels and axles (including nail heads) and any fenders or cosmetics, or parts must not exceed 2 3/4 inches.
- 10) To avoid the wheels from rubbing the track, the width between each pair of wheels per axle must clear the width between the top of the lane’s 2 vertical center guide rails which is 1 5/8 inches (Illustration 2). The width between the *inside* tread edge of each wheel of the front pair as well as the rear pair of wheels cannot be less than 1 3/4 inches. Speed hint: the width of the pinewood block is already 1 3/4 inches. So, the less distance between the wheels can result in less back and forth wobble of the car while traveling down the lane thus improving performance.
- 11) To avoid the bottom of the car from rubbing the track, the car’s minimum underside clearance (height) shall be at least 3/8 inch between the entire bottom of the car and the bottom of the racing wheels (i.e., the lane). If something is added to the underside of the car, ensure that it is not more than 1/8 inch thick. In addition, any attachment on the underside should be no wider than 1 1/8 inches and be centered. This gives clearance from the top and the inside portion of the lane’s 2 vertical center guide rails. The width between the top of the 2 center guide rails is 1 5/8 inches and their outside edge heights are 1/4 inch while the inside height is 3/16 inch. And the width between the inside portion of the 2 center guide rails is 1 inch. (Illustration 2) Speed hint: put weight inside vs. under the car for better performance. Side fenders may be lower outside the rails but cannot touch the track/lane/rails. Speed hint: fenders can slightly improve performance, but their weight, shape, and placement must be carefully considered and installed. Refer to the Q&A Section Q22.
- 12) The car’s underside must be void of sharp and/or abrasive material so as not to damage the stop section of the track. (Illustration 3)
- 13) Wheels cannot extend beyond the front or rear of the “car body proper”. This rule is for the Racing Teams that shorten the car’s overall length below the 7 inches and then adds attachment(s) to re-meet the 7 inches length requirement. Refer to the Q&A Section, Q23, Q24, and Q25.
- 14) Nothing of the car may protrude beyond an imaginary line drawn perpendicular to the lane that extends across the top (start) side of the lane’s start gate starting pin.
- 15) The bottom of the front edge of the car must be no more than 1 inch above the lane’s surface. And the front end of the car must be at least 1/2 inch wide at the center of the car. Speed hint: the lower and wider the nose of the car the better the performance. The BestTrack starting pin drops quickly enough that a car cannot gain a speed advantage with a high front edge. Also, if the underside of the nose is a dark color as well as wider than 1/2 inch the finish line LED sensor “sees” the car “better”.
- 16) Other than the 4 racing wheels, no part of the car or any attachment to the car may be capable of touching the track. Do not have excessive undercarriage weight/attachments. Also, no part of the car or any attachment to the car may be capable of encountering another car.

Axle Slots and Axles Rules Explained

- 1) The BSA pinewood blocks’ 2 factory cut slots need to be visible (Illustration 4, 6, and 8). The slots may be trued and/or straightened. These factory cut slots may be drilled or hammered out slightly to allow for easier axle insertion. And construction errors may be corrected (repair cracked or broken wood with glue, putty, etc.). Otherwise, the axle slot must be untouched. Using the BSA PWD Axle Guide Tool (# 17076) from a BSA Scout Shop is great for proper axle insertion. Speed hint: truing the axle slot (if needed or

desired) and drilling the axle slots should be THE first step of construction. Big speed hint: alignment is paramount in achieving top performance.

- 2) Only raw nails (Illustration 4, 6, 9, and 12) from the BSA Kits and/or the BSA Tubes from a BSA Scout Shop (e.g., Minsi Trails Council Scout Shop) or www.scoutshop.org (the 2 types of approved sources) are permitted to make racing axles (Illustration 13). Only the Racing Team may improve the nails into racing axles. Do not acquire any BSA nail, improved or raw, through a third party. If any racing nail is replaced for any reason, the replacement nail MUST still be from an approved source and from the BSA Kits and/or the BSA Tubes.
- 3) The proper preparation of the BSA nails into racing axles takes time and patience. Nails used as racing axles may ONLY be filed, sanded, polished, and/or lubricated and must be otherwise left unaltered. The average raw nail's shaft diameter is 0.088 inch. Speed hint: remove as little material as possible from the nail. Refer to Axles Rule 6) and 7) below for allowances and Illustration 13 for a finished racing axle. Speed hints: order of steps: file, sand, polish then lubricate while not flattening any part of the nail shaft.
- 4) As examples the following, but not limited to, are prohibited in preparation of a nail shaft and/or nail head.
 - a) Reducing the diameter, except as permitted in Axles Rule 6) and 7) below.
 - b) Bending.
 - c) Beveling.
 - d) Grooving.
 - e) Straightening
 - f) Tapering.
- 5) *No machined axles!* A machined axle does not happen by accident. It usually has at least 2 different diameters along the shaft with usually the smaller diameter hidden under the width of the wheel's bore.
- 6) Speed hints. To reduce friction, it is highly recommended to file each nail with a small metal file. Do not remove any more material than needed. Thinner axles mean more wheel wobble. Also keep the shaft round. Do not reduce any part of the shaft's diameter. ONLY the following may be removed (Illustration 12):
 - a) The 2 burrs under the nail head, where the outer hub of a wheel rides.
 - b) The 5 crimp marks around the nail shaft, where the wheel bore rides.
 - c) The rough surface along the nail shaft, where the wheel bore rides.
 - d) The sharp edges leading to the nail's tip which pass through the wheel bore.
- 7) Speed hints. To reduce friction, it is highly recommended to sand each nail with ever finer and finer sandpaper. Do not remove any more material than needed. Thinner axles mean more wheel wobble. Also keep the shaft round. Do not reduce any part of the shaft's diameter except as permitted in Axles Rule 6) above. After filing, begin sanding with 400 grit sandpaper and work up from there. Your patience, resources, and time determine how high a grit to use.
- 8) Lubrication:
 - a) Dry graphite-based lubricant is the ONLY lubricant allowed.
 - b) Any lubricating oil or liquid lubricant of any kind is PROHIBITED!
 - c) During the NCD Check-In, if a lubricating oil is suspected, the Car Inspection Team may apply graphite.
- 9) If desired, any number of the 4 racing axles may be canted (angled, not bent) for alignment purposes or skill level. This means that the axle does not need to be parallel to the track.
 Note: the BSA PWD Axle Guide Tool (# 17076) from a BSA Scout Shop does not help create canted axles but it does *help* in getting each racing wheel to stay in contact with the lane, reduces the chance of splitting the wood while inserting the axle into the axle slot, and leaves enough friction between the axle shaft and pinewood so that an adhesive is not needed. Speed hint: canted axles will reduce the amount of contact the wheel has with the lane thus reducing friction as well as aid in perfecting the alignment.
- 10) Each nail used as a racing axle for a racing wheel must be inserted into the factory cut BSA axle slot. Four separate BSA nails must be used. No solid one-piece rod style axles No substitutions. No nail used as a

racing axle can be inserted into the car body proper. In other words, no new axle slots; no new axle placement.

- 11) You may secure the racing axle with clear glue, tape, etc. However, if the BSA PWD Axle Guide Tool (# 17076) from a BSA Scout Shop is used and the instructions are followed, friction between the pinewood and the axle shaft should be enough to secure the axle in the axle slot.
- 12) The racing axle (nail) tip must be visible within the axle slot (which is also needed to be visible) to allow the Inspectors to verify that an approved BSA nail is being used as a racing axle in the factory cut axle slot. DO NOT cover the axle slot! Some examples to avoid: BSA PWD Axle Guide Cover (# 17107) or any other type, long weight on the bottom, non-clear glue, putty, etc.
- 13) To ensure fairness for all, each racing axle MUST be adjusted to ensure that its racing wheel is always in contact with the lane surface through its full rotation. Refer to Q&A Section Q42 for examples. The Inspector will test the car on a smooth, level surface (e.g., glass or track) and gently roll the car to verify that each racing wheel continually touches the surface throughout its full rotation.

Allow extra time to ensure this requirement is met.

NO RAISED RACING WHEELS. NO GAP UNDER THE WHEEL. NO EXCEPTION!

Speed hint: the racing wheel's tread is NOT required to be flat on the lane, thus less friction and less frustration. Racing wheels via the racing axles can be canted. The racing axles *cannot* be purposely bent. Experienced speed hint: to simulate the rail riding technique, the former raised front wheel should carry less than its fair share of the car's weight compared to the other front wheel while still always touching the lane throughout its full rotation. The weight that the rear wheels carry should be as equal as possible.

- 14) The Inspectors may use a magnet to ensure BSA nails are used.
- 15) If a racing axle is suspect, the Racing Team may be asked to pull it for inspection. If the racing axle (nail) passes the inspection, the Racing Team is responsible to re-install it. If the racing axle does not pass inspection, it cannot be used to compete in the NCD PWD Race. The NCD Race Committee will determine the next step on a case-by-case basis.

Wheels Rules Explained (Illustrations 11, 14, 15)

- 1) Only raw wheels (Illustrations 4, 6, and 9) from the BSA Kits and/or the BSA Tubes from a BSA Scout Shop (e.g., Minsi Trails Council Scout Shop) or www.scoutshop.org (the 2 types of approved sources) are permitted to be racing wheels. Only the Racing Team may improve the wheels into racing wheels. Do not acquire any BSA wheel, improved or raw, through a third party. If any racing wheel is replaced for any reason, the replacement wheel MUST still be from an approved source and from the BSA Kits and/or BSA Tubes.
- 2) Any color combination of the BSA colored wheels is permitted. Speed hint: the wheels may be mold matched (i.e., all wheels can have the same mold number). Colored BSA Wheels with 4 BSA Nails are contained in a Tube in the BSA Wheels and Axles Kits with Item # (no copyright years):

a) Black	17553	(f) Glow (White)	647053
b) Ragin' Red	17554	(g) Green	647054
c) Screamin' Yellow	17555	(h) Pink	647055
d) Blazin' Blue	17556	(i) Purple	647056
e) Outrageous Orange	17557	(j) Electric Blue	647826
- 3) All the Wheels Rules below are to ensure everyone understands what is and is not permitted in the preparation of the racing wheels. BSA Wheels as of 2009 are factory designed to require little preparation.

This is the main reason for BSA PWD Car Kits 2009[®] and later. In short, preparation of a racing wheel is limited to the possible permissible LIGHT sanding and polishing and lubricating.

Weight and dimensions of the average raw wheel are:

- a) Weight 2.70 grams (0.095 ounces). Pre 2009 wheels were heavier at 3.60 grams, a disadvantage.
 - b) Overall diameter is 1.184 inches.
 - c) Overall width (outside sidewall to inner hub cone) is 0.427 inch.
 - d) Tread width (small, dotted bumps to inner tread edge) is 0.313 inch.
 - e) Tread thickness is 0.068 inch consistently across the tread.
- 4) All lettering and numbering, both inside and outside, must remain complete and UNALTERED from the factory diecasting, and must be completely visible with NO obstruction of any kind.
- a) The letters/words and symbol on the outside sidewall of each wheel is and must show.
(Illustration 15): “BSA” and “PINEWOOD DERBY[®]”.
 - b) The letters/words and number on the inside below the sidewall of each wheel is and must show
(Illustration 14): “OFFICIAL BSA” and a mold number of 1 through 16 and “MADE IN USA”.
NO other lettering is permitted. Example: “CHINA”.
- 5) The following markings on the outside wheel area must remain complete and UNALTERED.
(Illustration 14 and 15):
- a) The small, dotted bumps (i.e., fluting) along the edge between the vertical outside sidewall and the horizontal outer tread.
 - b) On the outside of the wheel the lattice design inside the sidewall.
 - c) The inner tread edge that will touch the pinewood block, which is opposite of the small, dotted bumps.
 - d) Exceptions: refer to Wheels Rule 7).
- 6) The weight of the wheel MUST not be increased or decreased. Refer to Wheels Rule 7) for exceptions.
- a) NOTHING can be added to any wheel (i.e., decal, fingernail polish, glue, hubcap, paint, tape, etc.).
Speed hint: do not attach wheels until the end of assembly to avoid contamination from overspray of paint, sawdust/wood shavings entering the wheel bore, etc.
 - b) The wheel bore CANNOT be filled and re-drilled thus altering the bore diameter.
The wheel bore cannot be sanded or tapped or grooved.
 - c) Coning the inner hub IS PROHIBITED.
The inner hub must be intact and unaltered. It is already coned (Illustration 14).
 - d) Removal of the outer hub 2 step down design IS PROHIBITED.
The two steps must be intact and unaltered (Illustration 15).
 - e) NO material may be removed from the inside wheel surfaces at ANY point. No exception! Again, any wheel with ANY material removed from the inside of the wheel IS PROHIBITED. PERIOD! A wheel with ANY excessive flex to the tread or sidewall when squeezed or twisted during inspection cannot pass inspection. The flex is a guaranteed sign that the wheel has been altered (lathed and/or shaved) to reduce weight.
- 7) The ONLY 3 permissible weight changes (if any) are:
- a) The outer tread area may be LIGHTLY sanded (if even needed) ONLY to remove MINOR surface imperfections caused during wheel production. The outer tread area may be polished (if desired). The wheel diameter cannot be reduced. The outer tread surface MUST not be reshaped or have the contour changed in any way. If it is, this will be assumed as an attempt to minimize tread contact or alter aerodynamics (Illustrations 11).
 - b) The inner edge of the tread may be LIGHTLY sanded (if even needed) ONLY to remove MINOR surface imperfections caused during wheel production. The inner edge of the tread may be polished (if desired).

The tread width cannot be reduced. The roundness of the small lip of the inner edge of the tread **MUST** not be reshaped or have the contour changed in any way. If it is, this will be assumed as an attempt to minimize edge contact or alter aerodynamics (Illustrations 14).

- c) The addition of **ONLY** a dry graphite-based lubricant may be applied. Again, **NO** lubricating oil or liquid lubricant of any kind is permitted.
- 8) The outer tread surface must be (remain) flat and parallel to the wheel bore. Reshaping the tread and/or wheel **IS PROHIBITED!** (Illustration 11).
- 9) Again, **ANY ALTERATION** of the wheel is **PROHIBITED**. Including, but not limited to, narrowing of width or diameter, lathe cutting, or reshaping of wheel tread (inside or outside)! (Illustrations 11).
- 10) Other than the possible **LIGHT** sanding of the outer tread area and the inner tread edge and the later lubrication the only other real preparation of the wheels is polishing, if desired. Polish areas of the wheel that contact something else. The following areas of the wheel can be polished:
 - a) The outer hub, where the wheel contacts the underside of the axle head.
 - a) The wheel bore, where the wheel contacts the axle shaft.
 - b) The cone of the inner wheel bore, where the wheel contacts the car body.
 - c) The inner edge of the tread, where the wheel contacts the car body and/or guide rails.
 - d) The wheel tread, where the wheel contacts the lane surface.
- 17) Wheels cannot extend beyond the front or rear of the “car body proper”. This rule is for the Racing Teams that shorten the car’s overall length below the 7 inches and then add attachments to re-meet the 7 inches length requirement. Refer to the Q&A Section, Q23, Q24, and Q25.
- 11) No wheel covers of **ANY** type or any name, inside or outside, may be used. This includes but is not limited to cardboard, decals, hubcaps, wheel weights, wheel well weights, inner wheel air dams (also known as air deflectors or air shields), inner or outer wheel covers – clear or otherwise, or any item internal or external to a wheel. Fenders (Illustration 16) are allowed and encouraged for appearance and performance. Thus, a fender that is in front of and/or over top of and/or behind a wheel is allowed. The fender, or anything else, cannot cover the lattice side or the inside of the wheel, **PERIOD**.
- 12) Each wheel must be mounted with the lattice design facing outward from the car body.
- 16) To ensure fairness for all, **ALL 4 racing wheels *MUST* be in *CONTACT* with the lane at the same time throughout their full rotation.** Each racing axle **MUST** be adjusted to ensure that its racing wheel complies. Refer to Q&A Section Q42 or examples. The Inspector will test the car on a smooth, level surface (e.g., glass or track) and gently roll the car to verify that each racing wheel continually touches the surface throughout its full rotation.

Allow extra time to ensure this requirement is met.

NO RAISED RACING WHEELS. NO GAP UNDER THE WHEEL. NO EXCEPTION!

Speed hint: the racing wheel’s tread is **NOT** required to be flat on the lane, thus less friction and less frustration. Racing wheels via the racing axles can be canted. The racing axles *cannot* be purposely bent. Experienced speed hint: to simulate the rail riding technique, the former raised front wheel should carry less than its fair share of the car’s weight compared to the other front wheel while still always touching the lane throughout its full rotation. The weight that the rear wheels carry should be as equal as possible.

- 13) Inspectors may measure the wheel as needed to verify compliance.
- 14) If a racing wheel is suspect, the Racing Team may be asked to pull it for inspection. If the racing wheel passes the inspection, the Racing Team is responsible to re-install it. If the racing wheel does not pass inspection it cannot be used to compete in the NCD PWD Race. The NCD Race Committee will determine the next step on a case-by-case basis.

Please note:

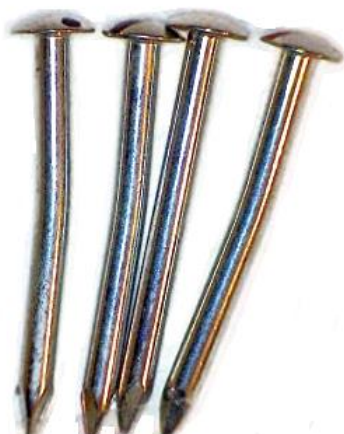
- There are modified aftermarket wheels available that have been LIGHTENED. Any aftermarket wheel and/or lightened wheel IS PROHIBITED.
- This lightening of the wheel is usually done by turning the wheel on a lathe and removing material from the inside of the wheel (Illustration 1). These wheels are NOT allowed and can be RECOGNIZED at inspection. Cars with third party manufactured or modified wheels ARE NOT permitted to compete for a speed trophy. A lightened lathed wheel is not something that happens by accident. The NCD Race Committee will determine the next step on a case-by-case basis.

Illustrations

Illustration 1

Pictures showing examples of **disqualifying** axle and wheel modifications.

Bent Axles
Various Angles



Sprayed Graphite Axles
Beveled Head



Machined / Grooved Axles and
Beveled Head and Non-BSA Nail



Left Wheel: Outer Hub 2 Step Down Removed.

Right Wheel: Inside of Wheel Lathed Resulting in Inside Hub Coned, Words/Number Missing, Thinner Inner Sidewall, and Thinner Tread Width.



Illustration 2

The 2021 NCD PWD Race is scheduled to use a 4-lane 42-foot Best Track® track.

www.besttrack.com

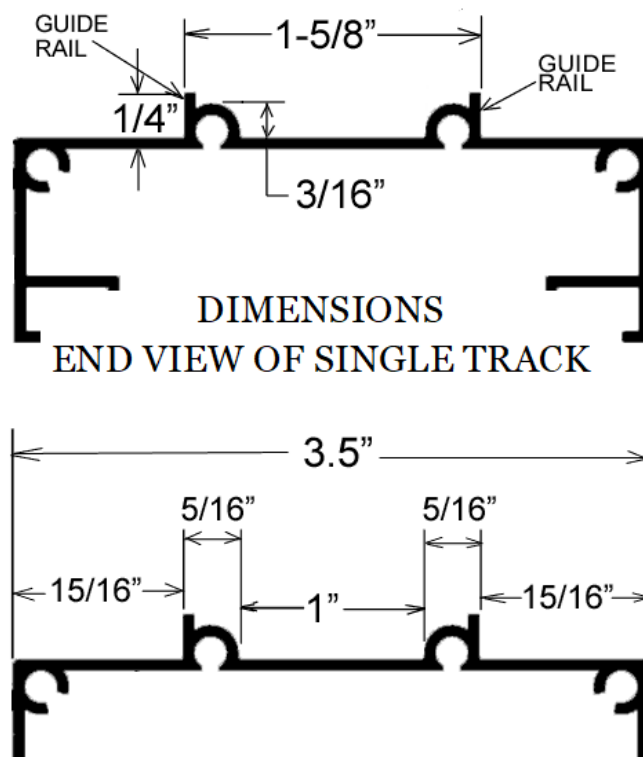


Illustration 3

Profile view of a Best Track® track. www.besttrack.com

Racing distance from the start gate to the middle timing hole is 36 feet 10 inches.

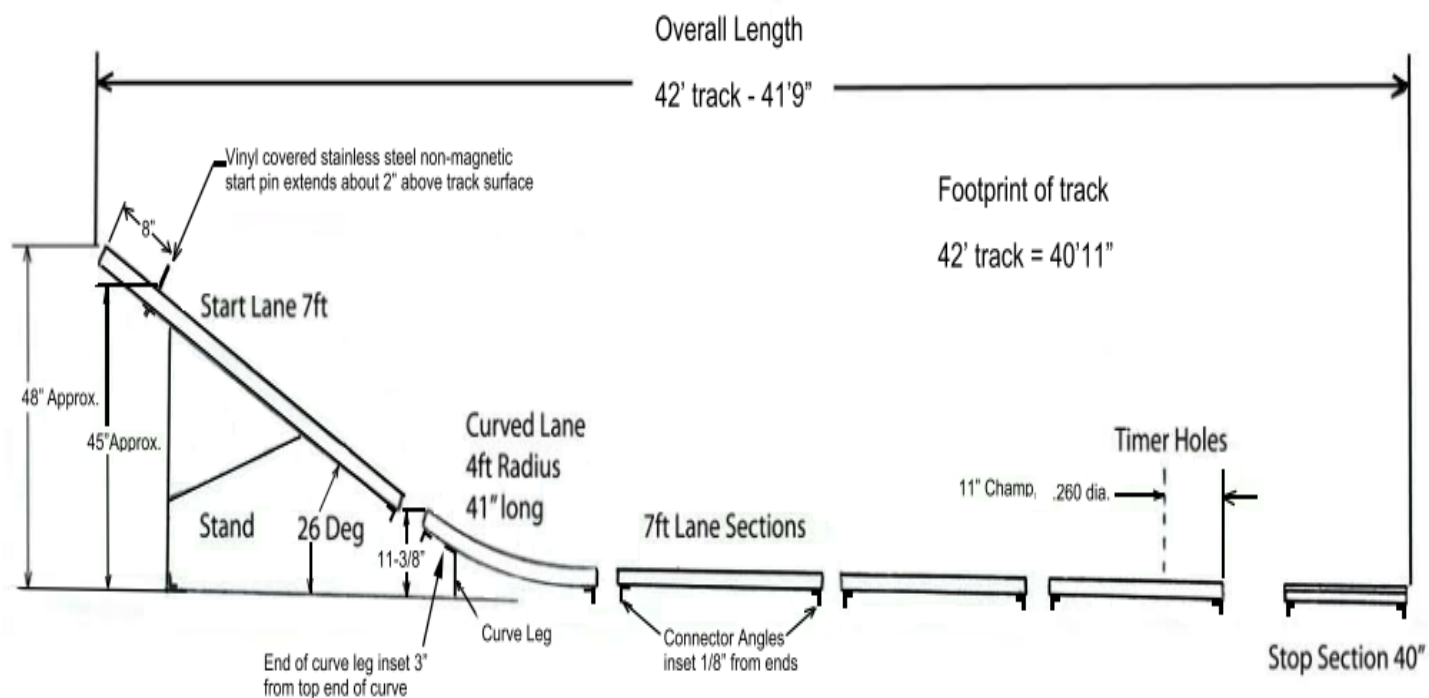


Illustration 4

Primary Approved BSA Pinewood Derby® Box Kit #17006 2018©
 with the components which include the pinewood block, 4 wheels, and 4 nails.
 Not pictured is the numbers decal and the BSA instructions/rules sheet (The Legacy Rules).



Illustration 5

“Gift Wrapped” Approved BSA Pinewood Derby® Box Kit #17000 2018©.
 Items in this box are the same as in the #17006 2018© (Illustration 4).

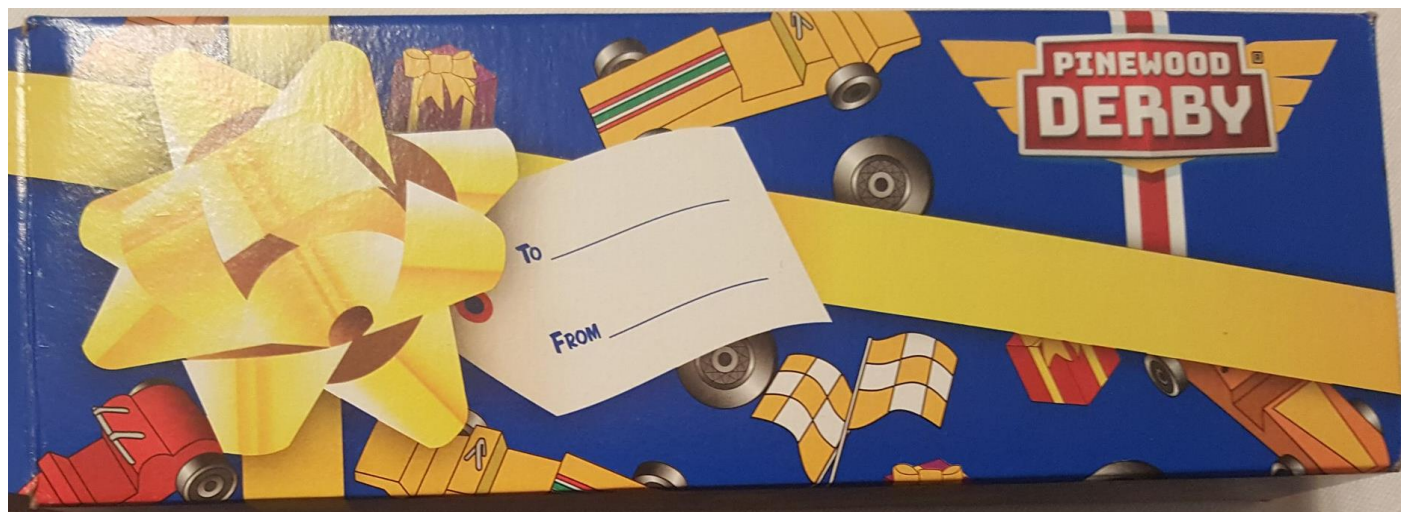


Illustration 6

Primary Approved BSA Pinewood Derby® Box Kit #17006 2012©
 with the components which include the pinewood block, 4 wheels, and 4 nails
 along with the numbers decal. Not pictured is the BSA instructions/rules sheet (The Legacy Rules).
 Items in this box are the same as in the #17006 2018© (Illustration 4).



Illustration 7

“Gift Wrapped” Approved BSA Pinewood Derby® Box Kit #17000 2009©.
 Items in this box are the same as in the #17006 2018© (Illustration 4).



Illustration 8

The only alternative to the Approved BSA Pinewood Block outside of the 4 Kits is the BSA Pinewood Derby® Pre-Cut Wedge Kit #614417 2011©.



Illustration 9

The only alternative Approved to the BSA Pinewood Wheels and Nails outside of the Kits are ALL the BSA Approved Colored Wheels and Nails in the BSA Approved Tubes. Due to discontinuation, not pictured are the 4 other (older) colored wheels and axles kits.

Electric Blue #647826



Purple # 647056



Pink # 647055



Green # 647054



Black # 17553



Glow (White) # 647053

Illustration 10
NCD PWD Car Dimensions

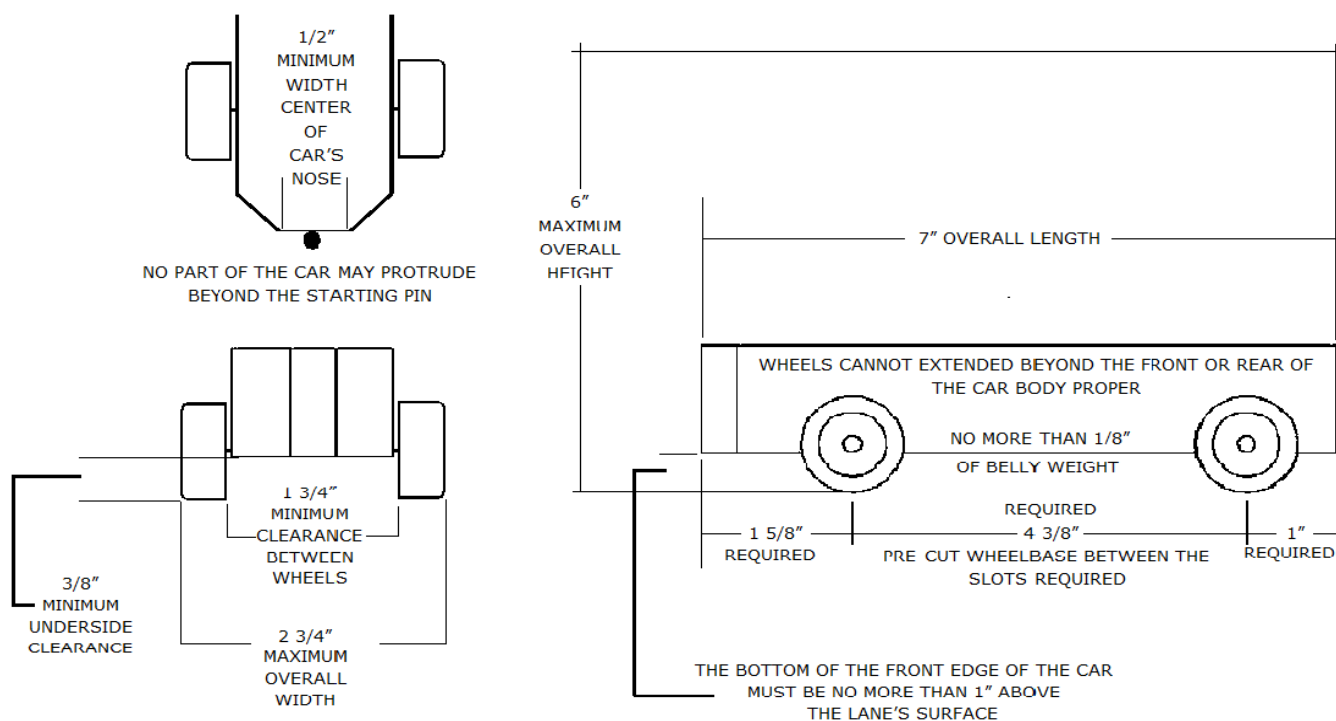


Illustration 11
Diagram showing examples of **disqualifying** wheel modifications.
These are reshaped (contoured) wheels.

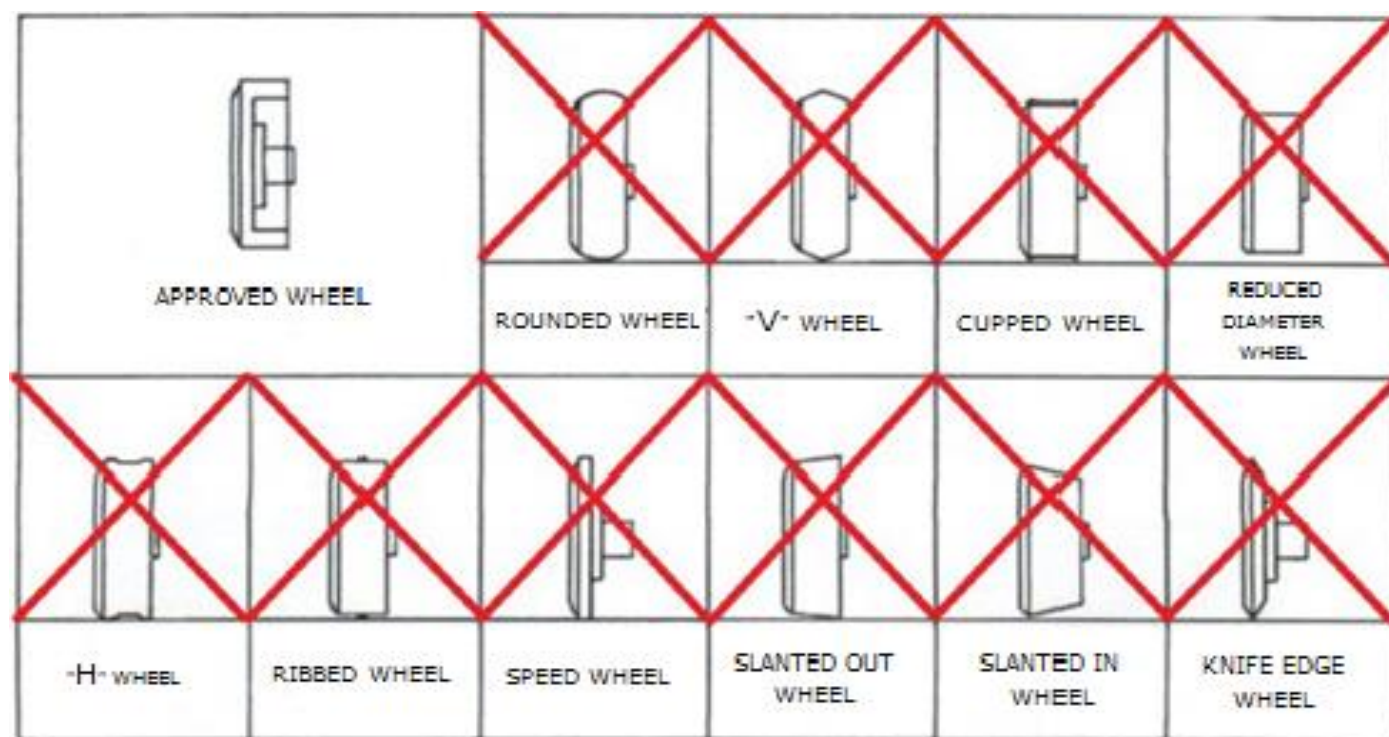


Illustration 12

Official BSA Pinewood Derby® Raw Nails Out of the Kit/Tube

The shaft of the nail has a rough surface. There are 3 half circle and 2 more half circle crimp marks on the nail shaft near the nail head where the wheel bore rotates. There are 2 burrs on the underside of the nail head where the outside hub of the wheel rotates. Finally, there are the 4 rough edges leading to the sharp nail point that passes through the wheel bore.

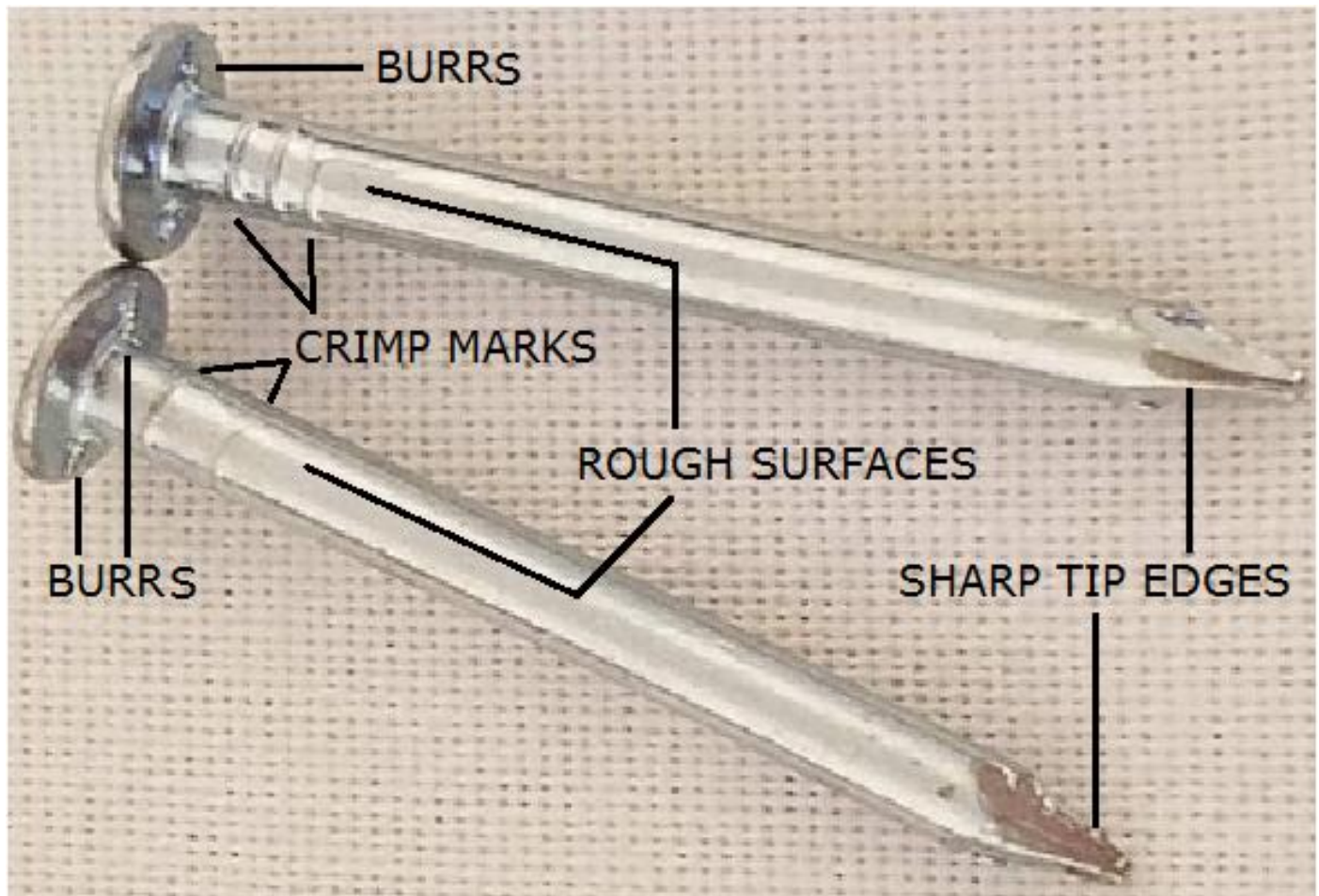


Illustration 13

BSA Pinewood Derby® Nail finished and ready to be a racing axle for the NCD PWD Race.



Illustration 14
Official BSA Pinewood Derby® Raw Wheel Out of the Kit/Tube
Outer Tread Surface and Inside View

- 1) The texture of the outer tread surface (Possible minor imperfections).
- 2) The roundness and small lip of the inner tread edge.
- 3) The thickness and texture of the tread underside.
- 4) The thickness and texture of the inner sidewall.
- 5) The intact raised lettering and number used as well as the font used and the orientation to the inner hub:

MADE IN USA 7 (Mold #) **OFFICIAL BSA**

- 6) The 3 small mold marks (circle dots) alongside the lettering.
- 7) The roundness (coning) on the rim of the inside hub.
- 8) The reservoir that leads into the bore (hole in the middle of the wheel).

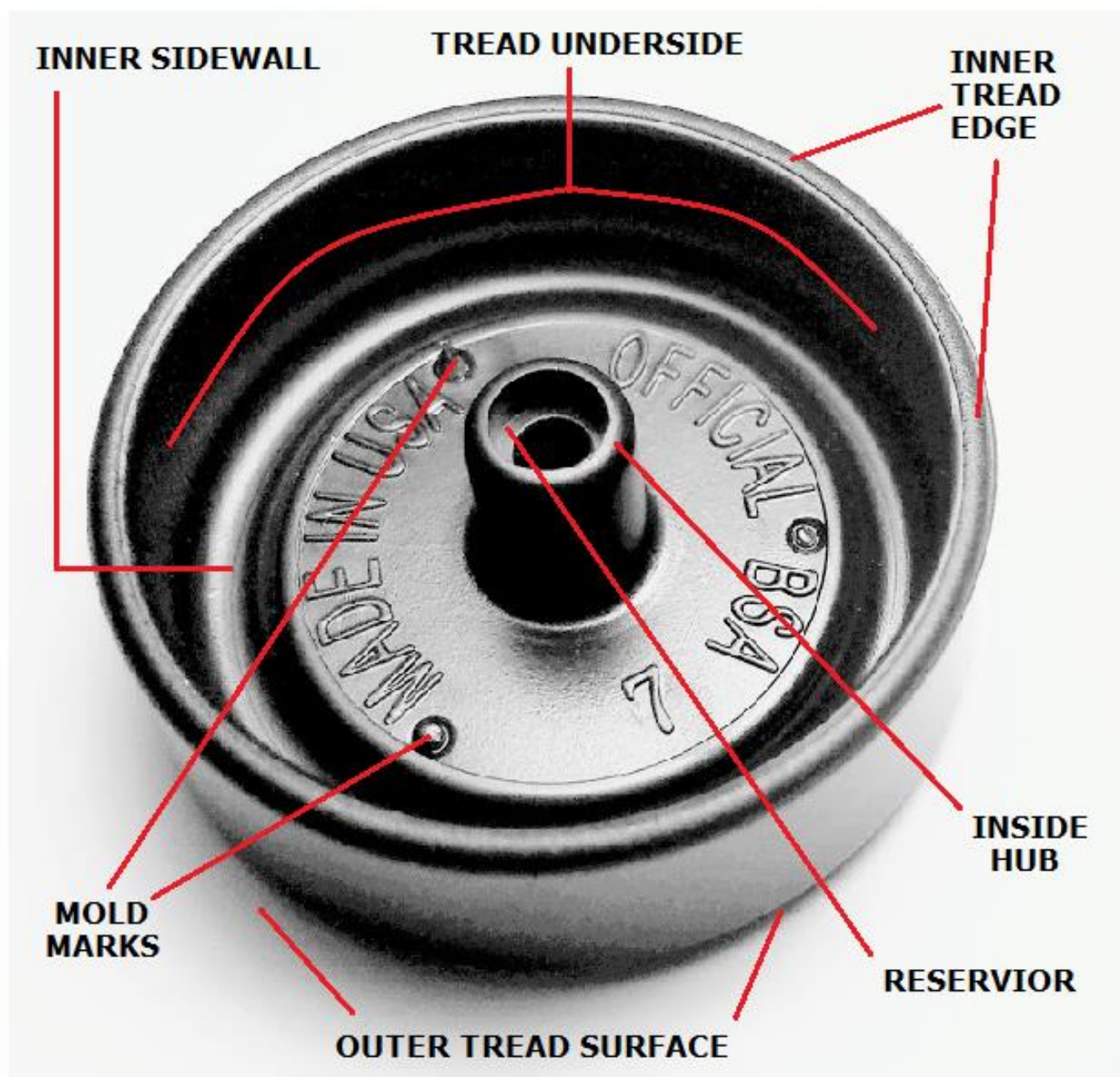


Illustration 15
Official BSA Pinewood Derby® Raw Wheel Out of the Kit/Tube
Outside View

- 1) The fully intact small, dotted bumps (fluting) around the circumference of the wheel.
- 2) The smoothness and convex shape of the outer sidewall.
- 3) The intact raised lettering used as well as the font used and the orientation around the outer sidewall.

BSA PINewood DERBY®

- 4) The lattice design and its position between the sidewall and outside hub.
- 5) The 2 step down design of the outside hub.

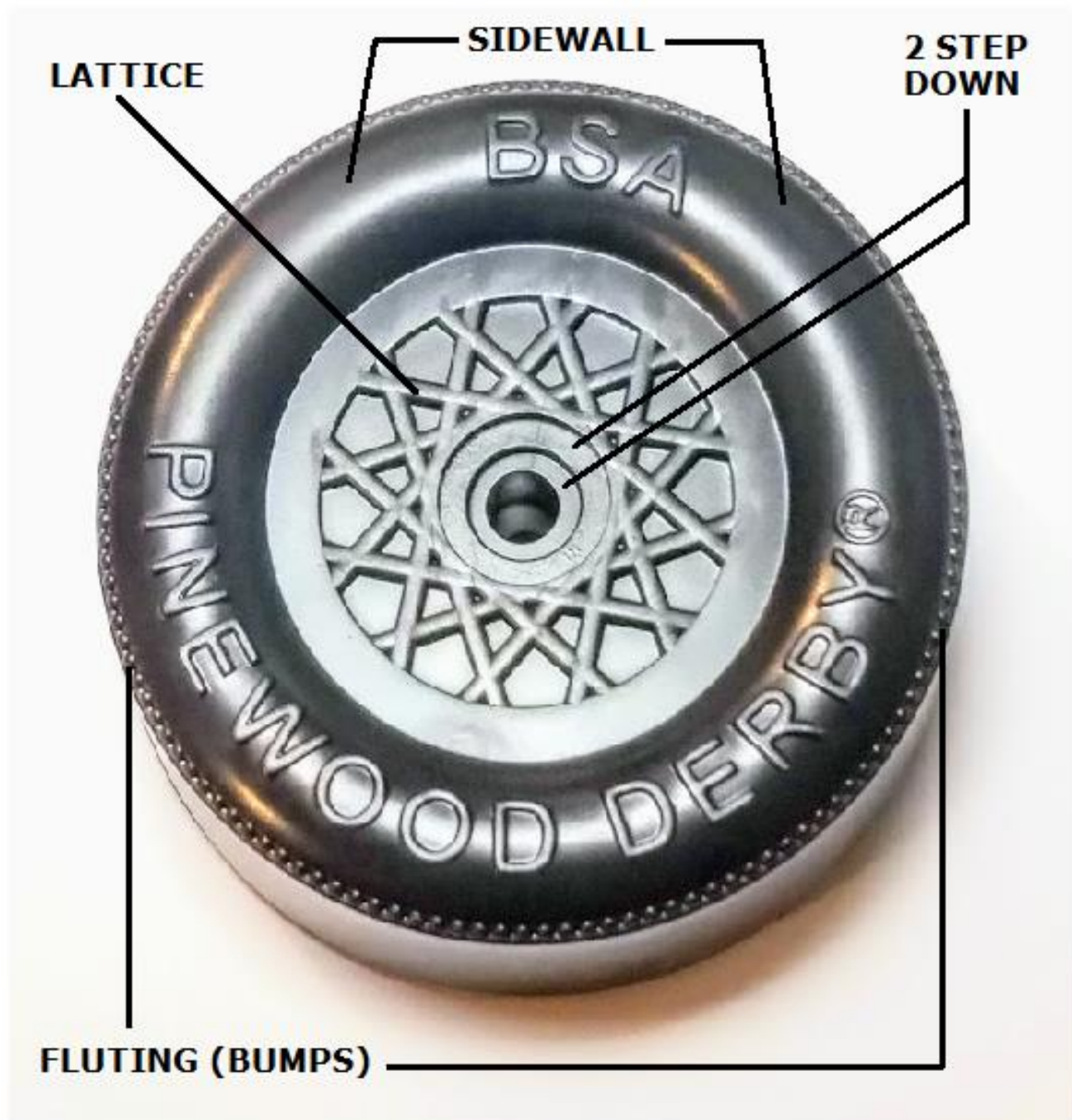


Illustration 16

Fender Examples: top 2 from the internet and the bottom 1 from a BSA Scout Shop.



Illustration 17

Lighting and Sound Kit Examples from a BSA Scout Shop.



Questions & Answers (Q&A)

1) **What changes related to COVID-19 can be expected for the 2021 NCD PWD?**

- For the latest information on all things 2021 NCD PWD refer to www.minsitrails.org and hover over “Districts” in the blue banner and select the “Northampton District” link and under the “Upcoming Events” select the “Northampton District Pinewood Derby” link.
- COVID-19 restrictions MUST be adhered to by ALL in attendance. In short, wear your mask, stay at least 6 feet apart, wash hands frequently, use sanitizer, stay home if you could have COVID-19, etc.
- The Race is planned to be virtual. Plan to attend the Race via the internet.
- The Racing Team needs to Check-In and then pick up their car during the designated times.
- For the car’s protection, it must be presented at the Check-In in a small box (e.g., shoe box).
- The Racing Team should not expect to be able to adjust their car at the Check-In tables. Be prepared to perform adjustment(s) elsewhere and without NCD loaned tools and/or supplies.
- No persons other than the Racing Committee may be in the building during the 2021 Check-In and the NCD PWD Race and pick up.

2) **What if my Pack does not have a 2021 Pack PWD race?**

- If your Pack does not have a 2021 Pack PWD race, then the Pack cannot register the up to 5 cars to attend the 2021 NCD PWD Race. Unfortunately, these Cub Scouts are not eligible to race at the 2021 NCD PWD Race.

3) **Is the 2021 NCD PWD Race in person or virtual?**

- Due to COVID-19 restrictions, the 2021 NCD PWD Race is expected to be virtual. No one except the Race Committee will be permitted in the building during the Check-In and the Race and pick up.

4) **Where and when is the 2021 NCD PWD Race?**

- The location for the 2021 NCD PWD Race is the Wind Gap Volunteer Fire Company Social Hall at 111 Broadway in Wind Gap, PA on Sunday, May 23, 2021.
- For the latest information on all things 2021 NCD PWD refer to www.minsitrails.org and hover over “Districts” in the blue banner and select the “Northampton District” link and under the “Upcoming Events” select the “Northampton District Pinewood Derby” link.

5) **Where and when is the Check-In for the 2021 NCD PWD Race?**

- The location of the Check-In for the 2021 NCD PWD Race is the Wind Gap Volunteer Fire Company Social Hall at 111 Broadway in Wind Gap, PA on Saturday, May 22, 2021.
- For the latest information on all things 2021 NCD PWD refer to www.minsitrails.org and hover over “Districts” in the blue banner and select the “Northampton District” link and under the “Upcoming Events” select the “Northampton District Pinewood Derby” link.

6) **Is there a make-up date or time for inclement weather, COVID-19, etc.?**

- If inclement weather, further COVID-19 restriction(s), track failure, zombie attack, etc. occur just prior to the Check-In or the start of the 2021 NCD PWD Race the lead NCD PWD Race Committee members will determine the continuation, delay, or cancelling of the Check-In by 8 A.M. Saturday, May 22nd for the Check-In *and/or* by 12 P.M. Sunday, May 23rd for the NCD PWD Race. The decision will be relayed by a paid Leader of the NCD to each Pack Committee Chair and Cubmaster to then be relayed to the attending Racing Teams.

7) **How much is the 2021 NCD PWD Race registration fee?**

Who pays the fee? How is the fee paid?

What does the fee pay for?

- The registration fee for the 2021 NCD PWD Race is \$7.00 per racing Cub Scout.
- In the past generally each Pack would submit payment to Minsi Trails Council at the building or via the Pack account after the registration of the eligible Cub Scouts.
- The fee is used to cover the NCD costs as well as the cost of the patches given to all the racing Cub Scouts and volunteers and finally the cost of the speed trophies and/or certificates and the specialty trophies and/or certificates.

8) **Is an Arrow of Lights (AOL) Scout that has moved on to a Troop eligible to participate in the 2021 NCD PWD Race?**

Are Lions and girls eligible to participate?

Are new Scouts too?

- All Cub Scouts including current school year, but former AOLs, and Lions and girls and new Cub Scouts are all eligible to be advanced to the 2021 NCD PWD Race as long as the youth was a BSA-registered Cub Scout with a racing car on the day of and at their Pack PWD.

9) **How many Racers can each Pack register for the 2021 NCD PWD Race?**

How many total Scouts are expected to attend the 2021 NCD PWD Race?

- Each Pack may send up to 5 Cub Scouts of its choosing. In the past, nearly all former South Mountain District Packs sent their fastest cars regardless of the Scout's Rank. It is the Pack's choice which and how many (0 to 5) Racers/cars may attend the 2021 NCD PWD Race.
- There are up to 40 Packs within the NCD. If every Pack registered the maximum of 5 Racers, then 200 cars could participate in the 2021 NCD PWD Race. Due to COVID-19 limitations, the District restructuring, Pack circumstances, etc., the Race Committee is unsure of how many cars will be registered or actually participate.

10) **What Speed Trophies will be awarded?**

- At the conclusion of the 2021 NCD PWD Race the 5 Racers with the overall fastest cars, regardless of the Cub Scout's Rank, will be awarded Speed Trophies. Also, the 3 Cub Scouts per Rank with the fastest cars will receive an award or certificate. These are the 1st, 2nd, and 3rd places for Lions, Tigers, Wolves, Bears, Webelos, and AOLs. In addition, these 18 Cub Scouts are eligible to attend, at their choosing, to compete at the 2021 NYC World Championship Pinewood Derby® Race near Times Square.

11) **What Specialty Trophies will be awarded?**

Who are the judges?

- The Specialty Trophy Categories are:

Best Cub Scout Theme

Most Patriotic

Funniest

Best Not A Car

Most Unique

- Normally during the Race, all attendees would be able to vote once for their favorite car for each of the specialty categories. However, since the 2021 NCD PWD Race is virtual, members of the Race Committee in attendance on Saturday, May 22nd and/or Sunday, May 23rd are the judges for the Specialty Trophies.

12) **Is food available?**

- Due to COVID-19 restrictions and because the 2021 NCD PWD Race is virtual there is no food.

13) **Could I volunteer for the 2021 NCD PWD Race?**

- Definitely. It takes a lot of manpower to orchestrate the 2021 NCD PWD Race, even virtually. In standing with BSA being a service organization, the NCD Leaders and its Race Committee highly

encourages and are grateful for help from any committed volunteers. However, in fairness and to avoid a conflict of interest if you have a youth participating in the Race you may be limited in your duties. Reach out to the NCD PWD Chair, Chris Van Camp at MTCNCDPWD@gmail.com and/or call/text at 513-253-8174 (M).

14) **What is the purpose of the 2021 NCD PWD Guide?**

- The Guide's purpose is to explain in depth the Rules that govern the 2021 NCD PWD Race to remove misunderstandings that have come to light during Inspections in prior years. The Guide is useful to all skill levels. This season the whole Guide has been updated. Besides the expanded Rules explanation, the Guide includes the 2021 NCD PWD Rules (the Checklist Rules), many Illustrations, a lot of questions with answers, the Congratulations form (for Racers attending the 2021 NCD PWD Race), the actual Registration and Check-In Checklist form and the Race Operations Rules.

15) **Why must the car not be altered once entered at the Pack PWD Race?**

- To maintain fairness to all racers across the NCD and to those attending the NCD PWD Race no car can be altered. The expectation is for the car to perform at the NCD PWD Race as it did at the Pack PWD race.

16) **What are the car's components and parts? What is the car's core?**

- The car's *Core* is constructed from the Components. The *Components* are:
 - The official racing BSA Pinewood Block or Pre-Cut Wedge from any of the approved BSA Kits.
 - The 4 official racing BSA Wheels from any of the approved BSA Kits or BSA Tubes.
 - The 4 official racing BSA Axles from any of the approved BSA Kits or BSA Tubes.
- The car's *Parts* are anything else added to the car that is not used as a component of the car's core. Examples: lights, Lego®, metal, paint, plastic attachments, sound, etc. In addition, for personal choice of the design of your car you may use more BSA pinewood and/or BSA nails and/or BSA wheels.

17) **How do we know if we have the correct Official BSA Pinewood Derby® Car Kit?**

- The Official BSA Pinewood Derby® Car Kit is known by the NCD PWD Chair to be available in 4 different boxes. The latest primary box is #17006 copyright 2018© with a blue and yellow front with a blue car emerging from a brown piece of wood (Illustration 4). The older primary box is #17006 (as well) copyright 2012© with a blue and yellow front with a red and white car pictured (Illustration 6). The alternative box is a "gift wrapped" box and is Item #17000 copyright 2018© or copyright 2009© (Illustration 5 and 7).
- Most Scouts receive their Kit from their Pack Leaders who usually purchase the Kits in bulk from the Minsi Trails Council Scout Shop. You may also purchase a Kit from the Minsi Trails Council Scout Shop or www.scoutshop.org.
- DO NOT use an older BSA Pinewood Derby® Car Kit. Mostly because the wheels are pre-2009. These wheels are outdated. Besides, they require more preparation and do not perform as well as the pre-2009 generation wheels for various reasons.

18) **We purchased our car kit (or components) through Hobby Lobby, Lowe's, Michael's, Derby Dad 4 Hire, Derby Evolution, Maximum Velocity, etc.**

It even said it was an Official BSA Pinewood Derby® Car Kit (or component).

Do these qualify?

- To maintain fairness for all Cub Scouts, these other companies' kits and/or components cannot be used for the car's core. These are either non-BSA kits and/or components and/or aftermarket kits and/or components. They may even state that these kits and/or components are BSA official but are still not allowed for the NCD PWD Race.

- The kit and/or components of your car must be sourced directly from a BSA Scout Shop (e.g., Minsi Trails Council Scout Shop or www.scoutshop.org) and fabricated/prepared from “scratch” by the Cub Scout and their adult partner.

19) **What does from “scratch” mean?**

- Two of the main purposes of the PWD is for the Racing Team to build a team relationship and to experience a sense of accomplishment. From “scratch” means that the Racing Team performs the construction of their Pinewood Derby® car from the beginning with components (definitely) and parts (expectedly) that were not used in previous years. Also, components are not sourced from pre-made car kits nor using professional third-party modifications or enhancements.

20) **We damaged the car, the pinewood block, the wheel(s), and/or the nail(s).**

A component in the Kit or Tube is damaged.

What do we do now?

- If the component is repairable, try to fix it but be mindful of the specific rules associated with the component. However, depending on your precision or the time and resources available the best option may be to replace the component. When replacing components only use the kits and/or tubes listed under General Rules Explained Rule 11) which are sourced through a BSA Scout Shop (e.g., the Minsi Trails Council Scout Shop) or www.scoutshop.org.

21) **Can we use the Official BSA Pinewood Derby® Pre-Cut Wedge instead of the pinewood block in the Official BSA Pinewood Derby® Car Kit?**

- YES. The Official BSA PWD Pre-Cut Wedge is the only alternative allowed in lieu of the 4 BSA PWD Car Kits. The BSA Wedge must be sourced through a BSA Scout Shop (e.g., Minsi Trails Council Scout Shop) or www.scoutshop.org. **NO** aftermarket pinewood block/wedge is permitted as part of the car’s core.
- The Wedge allows families to skip a construction step since the block is already cut into an aerodynamic shape. Also, families may skip receiving a BSA PWD box kit from their Pack and use the BSA Wedge kit with any variety of colored Wheels with Axles from the BSA Tube kits for the core of their car.

22) **Are side fenders allowed?**

- YES. Side fenders are allowed and are highly encouraged to promote creativity. Since fenders are parts and not components you may choose from many varieties from various sources. However, fenders have their challenges. Remember not to exceed the car weight and dimensions rules. Also make sure the fenders will not touch any part of the track, the 2 vertical center guide rails, the lane surface, or the racing wheels.

23) **Can wheels extend beyond the front and/or rear of the body of the car?**

- NO. Wheels cannot extend beyond the front and/or rear of the proper body of the car.
- By using the factory wheelbase, and not removing pinewood from either end of the car, no wheel will extend beyond the front or rear of the *car body proper*.
- Refer to Q&A Q24 and Q25.

24) **Can the end(s) of the block be removed?**

- YES, but CAUTIOUSLY.
- You *may remove* wood from the end(s) of the pinewood block, but something **MUST** be added back to replace what was removed in order to meet the 3 length requirements. Refer to *Car Weight and Dimensions Rules Explained* Rule 6) and Illustration 10, the right side of the diagram.
- Do NOT remove so much of the pinewood block that any amount of a wheel would extend beyond the length of the now shortened block. This new shortened block is now the *car body proper*.
- Refer to Q&A 25).

25) **What is the car body proper?**

- The *car body proper* is defined as the contiguous wood body itself and excludes attached wood parts, accessories of any material, or decorations. As an example, a bumper shaped from the original wood block that has *not* been dissected from the block is part of the car body proper. However, if an end of the car is cut away from the pinewood block thus shortening the block and then something is later reattached to that end of the car then that something is *not* part of the car body proper.
- *This is a rule that follows the 2020 NYC World Championship PWD Rules.*

26) **Are lights and electronics allowed on the car?**

- YES. Lights and electronics (e.g., sound) accessories are allowed and are encouraged to promote creativity. Be cautious not to exceed the dimensions rules or weight limit. In addition, make sure the accessory is secure, with no fragile or loose parts. Example: if the light strip is on the car's underside be aware that the car is stopped quickly after the finish line by dropping the underside on to a skid strip which could then damage the light strip. If a light strip falls off (thus removing weight) it cannot be reattached during the Race because it is not required for the car to race. Also remember to maintain the 3/8 inch underside clearance by adding no more than 1/8 inch of material to the underside of the car.

27) **Can material (weight) be added directly to the bottom of the car?**

- YES, but CAUTIOUSLY.
- The ideal placement of the main bulk of the car's weight is the back of the car and *inside* the car body. Placing weight *into* the car is advantageous for many performance reasons. If weight cannot be placed into the car body, then 4 concerns appear.
 - Very little added material (weight) can extend below the bottom of the car (1/8 inch) before interfering with the 3/8 inch underside clearance limitation. This clearance is to ensure that no part of the car except the racing wheels touch the 2 vertical center guide rails, lane, or track.
 - In addition, if the added material is wider than 1 1/8 inches or is too close to the edge of the pinewood block then the added material may contact a vertical center guide rail.
 - If the added material is a long continuous flat piece or/and an axle guard is used, then the axle slot is covered, and this interferes with the axle and axle slot inspection during Check-In.
 - Finally, the car is stopped quickly by a skid strip, so the smoother the underside of the car the more likely the car remains on the skid strip without damage to your car or another car.

28) **How can we make sure that the car does not weigh too much or too little?**

- Decide on the parts to be added with the finished components of the car. To get the best results take these items as an unfinished car to a commercial scale that measures ounces, like a grocery store self-check out. A Post Office scale works but is not as sensitive. The items should total about 4.85 ounces. The remaining 0.15 ounce is for paint and graphite and trim weight. A reservoir (drilled hole) on the car's underside is a great way to add or remove trim weight (a putty perhaps) as needed due to variations in the scales you will encounter.
- Realize that Pack scales and the NCD PWD scale and commercial scales will vary due to sensitivity and calibration. Your Pack scale is probably not calibrated like the commercial scale and not as sensitive as the 2021 NCD PWD Race scale. The NCD scale is a jeweler's scale that is calibrated using Class II weights certified by Northampton County Weights and Measures each year in early January. The NCD PWD scale reading is final.

29) **Can we use the axles included in the Tubes with the Official BSA colored wheels instead of or along with the axles in the Official BSA Pinewood Derby® Car Kits?**

- YES. Only the axles in the Tubes included with the colored wheels that are listed below in Q&A Q35 and *General Rules Explained* Rule 11) and *Wheels Rules Explained* Rule 2) may be used instead of or along

with the axles from the Official BSA PWD Car Kits. Again, **NO** non-BSA axle or even aftermarket BSA axles are permitted.

30) **Are aftermarket axles allowed?**

- NO. Non-BSA and even aftermarket BSA axles are PROHIBITED as racing axles.
- The Cub Scout and their adult partner(s) must prepare their car's nails to become racing axles.

31) **Can we bend any and/or all the axles?**

- NO. Bent axles are NOT allowed to be racing axles. A bent axle has an appreciable change in angle somewhere along its length (Illustration 1). Note: most nails included in the Kits and/or Tubes are not perfectly straight. As resources (money, patience, time, tools, etc.) allow acquire more than just 4 BSA nails. Use the best four.

32) **Can any and/or all the axles be canted?**

- YES. Any and/or all axles can be canted at a slight angle, but the axles themselves must be as straight as they came out of the Kits and/or Tubes. As resources (money, patience, time, tools, etc.) allow acquire more than just 4 BSA nails. Use the best four.

33) **What is a canted axle?**

- A canted axle is a straight shaft axle that is inserted into the axle slot at a slight angle up or down in reference to the side of the car while viewing the car from behind or in front. Canting the axle can be used to have only the edge of the racing wheel touch the track. Canting reduces friction between the wheel and the track. Canting can also be used for improving the car's alignment.

34) **Can we secure the axles within the axle slot(s) with glue or some kind of cover?**

- YES, but CAUTIOUSLY.
- At least the tips of all 4 racing axles within the 2 axle slots must be visible for inspection to verify that 4 approved BSA axles are being used on the car. A light application of clear glue or clear tape may be used. Make sure no sticky substance remains. Hint: a gel glue is less likely to travel along the axle shaft towards the wheel.
- Non-clear axle cover guards are NOT permitted to remain on the car for inspection. Also, a clear axle cover guard is discouraged. Be mindful of the 3/8 inch ground clearance requirement. Ideally use the axle cover guard to insert the racing axles then remove the cover guard and secure the racing axles with perhaps a clear adhesive or ideally friction between the axle and the axle slot.

35) **Can we use the Official BSA colored wheels instead of or along with the wheels in the Official BSA Pinewood Derby® Car Kit?**

- YES. BSA Colored wheels are allowed and are highly encouraged to promote creativity. However, ONLY the wheels in the list below may be used instead of or along with the wheels from the Official BSA PWD Car Kits. Any color combination of the Official BSA wheels may be used. Again, non-BSA wheels or any aftermarket BSA colored wheels are prohibited. PERIOD. The following wheels (with Item #) are available at the Minsi Trails Council Scout Shop or www.scoutshop.org.

○ Black	# 17553	Original
○ Ragin' Red	# 17554	Limited Supply
○ Screamin' Yellow	# 17555	due to
○ Blazin' (Dark) Blue	# 17556	discontinuation.
○ Outrageous Orange	# 17557	<u>Good luck finding.</u>
○ Glow (White)	# 647053	These are
○ Green	# 647054	new as of
○ Pink	# 647055	2018 and glow
○ Purple	# 647056	under a
○ Electric Blue	# 647826	black light

36) **Are aftermarket wheels allowed?**

- NO. Non-BSA wheels and even aftermarket BSA wheels are PROHIBITED as racing wheels.
- The Cub Scout and their adult partner(s) must prepare their car's racing wheels.

37) **Can wheel treads be lathed?**

- NO. A racing wheel's tread **CANNOT** be lathed for the NCD PWD Race. In addition, NO part of a racing wheel can be lathed.
- *This is contrary to the 2020 NYC World Championship PWD Rules.*

38) **Are air deflectors or air shields or weights allowed inside any wheel cavity?**

Can anything cover the outside of the wheel?

- NO. Nothing may be inside/outside or cover the inner wheel's cavity or outer part of the wheel, even if the part is clear. NOTHING is permitted inside or outside.
- For inspection, each wheel's inside cavity must have nothing within it or covering it. Common names for the air deflector or air shield include but are not limited to "Air Dam", "Air Guide", "Air Shields", "Wind Jammer" etc. These all fall under the category of inner wheel air dams or wheel covers.
- Also, the wheel's lattice side must have nothing covering it. Examples: include but are not limited to cardboard, tape, etc.

39) **Is Rail Riding® allowed? What is rail riding?**

- YES. Rail riding is permitted, but all racing wheels MUST be TOUCHING the lane through a full rotation. No raised wheel(s)! A 4 wheel rail rider is possible, but not easy.
- Rail riding is an advanced technique to improve alignment that is determined usually from the initial construction of the car. Rail riding requires 3 various canted wheels (angled axles) and ideally a raised non-steering front wheel. The NCD PWD Race does NOT permit any raised wheel! The goal for rail riding is to purposely steer the car into the rail in order to remove side to side travel (wobble) that will slow your car down. A proper rail rider car will only have the front steering wheel touching the center rail the entire race.

40) **Do any or all wheels have to be FLAT on the track?**

- NO. None of the racing wheels have to be FLAT on the track, but they can be.
- This means that each racing wheel may be resting on the inner or outer edge of its tread. To do this the racing axle of the desired racing wheel is inserted into the axle slot at a slight angle (canted) up or down in reference to the side of the car while viewing the car from behind or in front.

41) **Can we have a raised wheel?**

- NO! PERIOD!
- RAISED RACING WHEELS ARE PROHIBITED!
- NO GAP IS PERMITTED UNDER ANY RACING WHEEL!

42) **Do all the wheels have to be touching the lane surface?**

- YES! For fairness and to compete at the NCD PWD Race all racing wheels MUST be TOUCHING the lane through a full rotation. This is easier said than done. To ensure that all racing wheels are touching, place the car on a smooth, level surface (e.g., pane of glass), then gently and without applying downward pressure move the car back and forth.

43) **What are some examples of how to get all 4 wheels to touch the lane at the same time through a complete rotation?**

- Use a BSA PWD Axle Guide Tool (# 17076), found at a BSA Scout Shop, and follow its directions.
- Take the opposite racing axle (and racing wheel) out of the axle slot. Increase the depth on that side of the slot. Reinsert the axle and wheel. Repeat as needed. Remember to not get any wood debris into the other wheels' bores.

- To correct a front raised racing wheel, screw into from the top of the car over the shaft of the racing axle a cone head set screw. Slowly turn the set screw to push the shaft of the axle down. This changes the cant of the axle and thus changes the angle of the racing wheel.
- Place something like a flat toothpick under the raised racing wheel. Sand a ½ inch length of the toothpick down enough that it fills the gap between the racing wheel and the resting surface. Remove the suspect racing axle and racing wheel. Then put the sanded portion of the toothpick into the axle slot at the base of the slot (against the bulk of the wood) and secure in place. Remove excess toothpick. Then reinsert the axle (with the wheel) into the axle slot without moving the toothpick.

44) **Can oil be used instead of graphite to lubricate axles and wheels?**

- **NO! OIL IS PROHIBITED!**
- If graphite is not evident, or oil is suspected, graphite may be applied to any and/or all racing wheels by the Inspectors or NCD Race Committee during the Check-In.

45) **Do the inspectors pull axles and/or wheels for inspection?**

- NO. Inspectors do not pull axles or wheels for inspection. But if racing axles or racing wheels are suspect, the Racing Team will be asked to pull the axles out for inspection of the axles and/or wheels. The Racing Team is responsible to re-install the passable axles and/or wheels.

46) **Where else could we race our Pinewood Derby® car beyond the NCD PWD Race?**

- Minsi Trails Council does not have a Council Race. But there are 2 annual national Scout races.
- One race is in New York City and the other in Omaha. There is also a monthly professional league.
 - NYC:
Our NCD PWD Race Rules are tailored to meet the NYC World Championship Pinewood Derby® Race (NYC Race) Stock Division Rules. The three Cub Scouts in each Rank with the fastest cars (the Scouts who receive the speed certificates) at the NCD PWD Race are eligible to participate in the NYC Race. The NYC Race has historically been scheduled the last Saturday of June in New York City near Times Square. Cars mostly from the Northeast compete, but eligible cars from as far as California and Florida attend to compete. The NYC Race is a national level race sponsored by the NYC Council. There is a fee for Racers and spectators.
Look for more information at www.bsa-gnyc.org/championshippinewood.
 - Omaha:
The 2021 Mid-America Council National Pinewood Derby® Race (Omaha Race) is scheduled for Saturday, April 24, 2021 in Omaha, NE. Their Race rules are quite different from the NCD PWD Rules; less stringent which allows for faster cars. Also, there are no pre-qualification requirements, thus any person can enter. There are 6 Race Divisions you could enter, covering Cub Scouts and Kids (anyone under 18) and Adults (anyone 18 and over) each including graphite and oil lubrication. You may enter a separate car for each Division. You do not have to attend the race. You can mail the car(s) in and then watch live on the internet.
Look for more information at www.midamericaderby.com.
 - Pro:
Finally, for those wanting to “go way down the rabbit hole” and go pro there is even a national monthly race league. This is a very, very small group of people from across the USA. These builders and cars are at the peak of the pyramid. Even though the races are extremely competitive (winning by 0.0001 seconds) and the racers are far and wide there is lots of help and encouragement to be found. Learn more at www.npwdrl.com.
In addition, there is annual Pro event with a number of Pro Division races at the Omaha Race on Friday, April 23, 2021.

CONGRATULATIONS

To the pending REGISTRANT and ALTERNATE Scouts

for the

2021

Northampton County District

Pinewood Derby® Race

Where	Virtually at the Wind Gap Fire Company Social Hall 111 N Broadway Wind Gap, PA 18019
When	Check-In – Saturday, May 22, 2021 Race Day & Pick Up – Sunday, May 23, 2021
Hosted by	The Northampton County District Pinewood Derby® Committee and the Order of the Arrow
Until the Race	Keep the car away from playful hands. It is advised to put the car in a sealed Ziplock bag.
Prior to Check-In	<ol style="list-style-type: none"> 1) For the latest information on all things 2021 NCD PWD refer to www.minsitrails.org and hover over “Districts” in the blue banner and select the “Northampton District” link and under the “Upcoming Events” select the “Northampton District Pinewood Derby” link. 2) Refer to the 2021 NCD PWD Guide to review the 2021 NCD PWD Race Operations Rules. Also found at www.minsitrails.org. 3) Reapply the same graphite to the attached racing wheels and axles. 4) Clean debris from racing wheels.
AND REMEMBER	Once the car <u>was</u> accepted by your Pack’s inspection committee it was <u>no longer</u> able to be adjusted or altered or modified or fixed or repaired, etc. Thus, the car must remain in the same configuration that it finished at your Pack’s Pinewood Derby® race.
Direct Questions to	Northampton County District Pinewood Derby® Chair Chris Van Camp (513) 253-8174 (M) and/or MTCNCDPWD@gmail.com

2021 Northampton County District Pinewood Derby® Race Check-In

Welcome Racers to the 2021 and the first Northampton County District (NCD) Pinewood Derby® (PWD) Race! Our new District has almost 40 Packs! Thank you, Racers and Akelas, for submitting a car for racing. Even though each of us wants to see our car win we all need to remember the purpose of the PWD. We are all wanting to HAVE FUN, to watch a fair race, share the excitement of a friendly competition, and to support one another, win or lose. In other words, foster good sportsmanship!

A big thanks goes out to ALL the volunteers making our District Race possible. In return, we appreciate your patience with the inspection and operation of the Race via the internet.

Safety notes. Please follow COVID-19 restrictions. Also, no car or person may pose a hazard to the other cars, the track, persons, or the facility. Please be respectful to one another. Follow the Scout Law and Oath and encourage each other to do the same. Also, the inspectors' decisions and ultimately the NCD PWD Chair's decisions are final.

The Race Operation Rules are in the 2021 NCD PWD Guide found at www.minsitrals.org. Hover over "Districts" in the blue banner and select the "Northampton District" link and under the "Upcoming Events" select the "Northampton District Pinewood Derby" link.

We all need to do our best, including being fair with one another and race by the rules. You may have even seen the *Congratulations* form at the end of your Pack race. Remember to *compete* in the 2021 NCD PWD Race the car needs to comply with the 2021 NCD PWD Checklist Rules.

The back of this form has the Checklist Rules. It is needed by the Car Inspection Team (CIT) to approve the car to *compete* for a Speed Trophy. If the car does not pass, the Racing Team MAY be allowed, with the NCD Race Committee's approval, to adjust their car as needed on a case-by-case basis. In short, the adjustment(s) cannot give the car a speed advantage. A Pit Stop Station is not available this year. After adjustment(s) the car needs to redo the inspection.

Once your car is given an entry number no one except the CIT or the Race Operation Crew (ROC) may handle the car. Should a car become unable to race the Race Committee will give up to 6 minutes for repairs. Refer to the Race Operation Rules.

If the car cannot meet the 2021 NCD PWD Rules, it CAN still *participate* and is still eligible to win 1 of the 5 Specialty Trophies, just not a Speed Trophy. So, we HIGHLY encourage you to race. You as a racing Cub Scout will be able to pick your favorite car for each Specialty Trophies. Also, all racing Scouts will receive a 2021 NCD PWD Patch. Finally, ...

HAVE FUN!! CHEER EACH OTHER ON!!

Scout's Name: _____

Scout's Pack: _____

Car's Name: _____

Scout's Rank: _____

At the Pack Race

Not Grade

To Be Completed by the 2021 NCD PWD Car Inspection Team

Scout Registered? _____

Car Entry Number: _____
Top Rear of Car

Car Registered? _____

Car's Pack Standing: _____

SPEED and SPECIALTY

SPECIALITY Only

To Be Completed by the 2021 NCD PWD Car Inspection Team

Checklist

Weight/Overall Inspector

- | | |
|--|---|
| <p>_____ Guided by the Scout Law & Oath
(Mark Check-In Time)</p> <p>_____ Car Submitted by Registered Scout
(ALL Lions to 2021 Former AOLs with Their Racing Team)</p> <p>_____ Unaltered Since Pack Inspection
(ONLY More Graphite & Wheel Cleaning Permitted)</p> <p>_____ No Sticky Substance
(No Excess Glue, Wet Paint, Tape, Magnets, Etc.)</p> <p>_____ No Moving Weights or Liquids
(All Parts Solid, Secure, & Safe)</p> <p>_____ <u>WEIGHT ≤ 5.00 OUNCES!</u>
(Up to 5.004 Ounces Permitted. NOT 5.005)</p> | <p>_____ Cub Scout should be in Class A Uniform</p> <p>_____ Scout Built This School Year from Scratch
(NO Repeats, Repaints, Old Components, Professional, Etc.)</p> <p>_____ <u>BODY Component is a BSA PWD BLOCK!</u>
(NO Other Material, Blocks, Kits, Prefinished, Professional, Etc.)</p> <p>_____ If Lights/Sound Attached, Turned Off</p> <p>_____ No Fragile or Loose Parts
(No Glass, Mercury, Dangerous Parts, Etc.)</p> <p>_____ <u>GRAVITY POWERED ONLY!</u>
(NO PROPULSION SYSTEM. PERIOD!)</p> |
|--|---|

Dimensions Inspector

- | | |
|---|---|
| <p>_____ <u>OVERALL LENGTH = 7"</u> (Equals)
(Caution Block's Length, Cutting Ends, Adding Lights, Pipes, Etc.)</p> <p>_____ <u>OVERALL WIDTH ≤ 2³/₄"</u>
(Including Wheels & the Axle Heads & <i>Fenders</i>, Etc.)</p> <p>_____ Wheels Do Not Extend Beyond Body
(Wheels MUST Remain Behind PWD Block's Front & Rear Ends)</p> <p>_____ WHEELBASE LENGTH = 4 3/8"
(Do NOT Make New Axle Slots or Extend Wheelbase)</p> <p>_____ Underside Attachment Width ≤ 1 1/8"
(Centered & NO Sharp &/or Abrasive Material)</p> <p>_____ Bottom of Nose (Front) ≤ 1" High
(Up Curved Nose Allowed)</p> | <p>_____ Height ≤ 6"</p> <p>_____ <u>WIDTH Between Wheels ≥ 1³/₄"</u>
(Inside Edge <i>Between Wheels</i> Using Same Axle Slot)</p> <p>_____ No Protrusion Beyond Starting Pin
(NOTHING May Extend Beyond the Starting Side of the Pin)</p> <p>_____ Lengths: Front & Back are 1 5/8" & 1"
(From Each Associated Axle Slot to the PWD Block Ends)</p> <p>_____ GROUND CLEARANCE ≥ 3/8"
(NO MORE than 1/8" of Parts Added to Underside of Car)</p> <p>_____ Nose (Front) Width ≥ 1/2", Centered
(No Pointy Nose)</p> |
|---|---|

Axles Inspector

- | | |
|---|--|
| <p>_____ <u>AXLES are 4 BSA PWD NAILS!</u>
(NO Other Axles. No Prefinished, Professional, Etc.)</p> <p>_____ 2 Wheels & 2 Axles per Axle Slot
(Each Axle's Pair of Wheels MUST be Across from the Other)</p> <p>_____ Smooth (if Desired) Unaltered Axles
(<u>ONLY</u> Filed, Sanded, Polished, & Graphite Permitted)</p> <p>_____ <u>NO BEARINGS/BUSHINGS/WASHERS!</u>
(ONLY Axle, Wheel, PWD Body, & Graphite Permitted)</p> | <p>_____ <u>ONLY DRY GRAPHITE-Based Lube!</u>
(NO OIL! No Liquid Lubricant! PERIOD!)</p> <p>_____ Both Original Axle Slots Used & Visible
(ONLY Adjustments Allowed: True Slots & Pre-Drill to Fit Axles)</p> <p>_____ Each Axle Tip Visible (Not Covered Up)</p> <p>_____ <u>NO SPRINGS/SUSPENSION!</u>
(PERIOD! Not Even the Body)</p> |
|---|--|

Wheels Inspector

- | | |
|--|---|
| <p>_____ <u>WHEELS are 4 BSA PWD WHEELS!</u>
(Colored Wheels Allowed. No "CHINA", <i>Prefinished, Professional, Etc.</i>)</p> <p>_____ Tread is Flat & Parallel to Bore
(NO Reshaping Tread at ALL. Lattice MUST Face Outward)</p> <p>_____ Correct LETTERS/NUMBERS Intact
(BSA / PINWOOD DERBY®) (OFFICIAL BSA / # / MADE IN USA)</p> <p>_____ <u>NO MATERIAL REMOVED IN/OUT!</u>
(NO Lathe, Narrow, Lighten, Hub Stepdown Removal, Etc.)</p> <p>_____ NOTHING but 4 Wheels Contact Lane
(Wheels NOT Required to be Flat on Track. Canted Allowed)</p> | <p>_____ <u>NO WHEEL ALTERATIONS!</u>
(ONLY Adjustments Allowed: Polish Bore, Hubs, & Tread)</p> <p>_____ NO MATERIAL ADDED Except Graphite
(NO Inside/Outside Cover, Hubcap, Paint, Nail Polish, Etc.)</p> <p>_____ Outside FULLY Intact & UNALTERED
(Small Dotted, Bumps Along Tread & Sidewall. Lattice Also)</p> <p>_____ ONLY LIGHT SANDING Permitted
(ONLY TO REMOVE <u>MINOR</u> SURFACE <u>IMPERFECTIONS!</u>)</p> <p>_____ <u>NO RAISED racing WHEEL! PERIOD!</u>
(NO GAP Under Any Wheel. Test on Smooth Rigid Flat Surface)</p> |
|--|---|

2021 NORTHAMPTON COUNTY DISTRICT PINWOOD DERBY® RACE OPERATIONS RULES

Eligibility

- 1) The Pack PWD Race Chair (or designee):
 - a) is highly recommended to closely re-inspect a minimum of 7 cars at the end of their Pack PWD race that are most likely to attend the NCD PWD Race. The reinspection is to double check that each car can pass the NCD PWD Check-In Inspection in order to compete. This is to avoid an unpleasant surprise for the Racing Team during the NCD PWD Check-In.
 - b) informs up to 5 Cub Scouts that they are to-be-registered to represent their Pack at the NCD PWD Race.
 - c) informs the remaining Cub Scouts that they are to be alternates.
 - d) should give the to-be-registered and alternate Cub Scouts and their Akelas the *Congratulations* form at the end of their Pack PWD Race. The form is found in The Guide, page 32.
 - e) registers up to 5 Cub Scouts and their PWD car no later than Friday, May 14, 2021. Go to www.minsitrails.org and hover over “Districts” in the blue banner and select the “Northampton District” link and under the “Upcoming Events” select the “Northampton District Pinewood Derby” link.
Include in the registration:
 - i) Scout’s name and Rank (as of February 1, 2021),
 - ii) Car’s name,
 - iii) Pack number,
 - iv) Adult Partner’s name,
 - v) Adult Partner’s contact email AND
 - vi) Adult Partner’s phone number.
 - f) ensures payment is completed with/at the Minsi Trails Council for the registered Cub Scouts no later than 4:00 P.M. Friday, May 14, 2021.
 - g) may send an equal number of alternate Cub Scouts as substitute(s) when any number of the up to 5 to-be-registered Cub Scouts are unable to drop-off at the 2021 NCD PWD Race.
Example: if 3 Cub Scouts are registered then only 3 Cub Scouts may attend. A 4th or 5th Cub Scout may not attend the NCD PWD Race unless also registered no later than Friday, May 14, 2021.
 - h) must confirm via MTCNCDPWD@gmail.com any number of further alternate Cub Scout(s) with their Rank and their named qualified cars including the need info listed in e) above with the NCD PWD Chair. The Chair will then inform the NCD PWD Timer Manager and a paid NCD Leader (ideally the District Director). This substitution confirmation occurs after the initial registration or after Friday, May 14, 2021 but no later than 9:00 PM Friday, May 21, 2021.
 - i) (*when the NCD PWD Race is in person*) should have their Pack flag and its base attend the NCD PWD Race and then have it returned to the Pack.
 - j) in the event of inclement weather or an unforeseen event, will inform the Pack’s Racers if the 2021 NCD PWD Race is delayed or cancelled. The Pack PWD Race Chair will be informed by the Pack Cubmaster and/or Committee Chair via email and/or by a paid NCD Leader (ideally the District Director) by 9:00 A.M. Saturday, May 22nd for the Check-In *and/or* by 12 P.M. Sunday, May 23rd for the NCD PWD Race.

- 2) A Cub Scout is eligible to race one Pinewood Derby® Car in the 2021 NCD PWD Race when they meet the following rules. The Cub Scout:
 - a) is a youth that is a 2021 registered BSA Lion, Tiger, Wolf, Bear, Webelo, or *was* a 2021 registered Arrow of Light (AOL) from a Pack within the Northampton County District of the Minsi Trails Council.
 - b) must be a registered Cub Scout that participated in their Pack's 2021 PWD race.
 - c) must be registered to race no later than Friday, May 14, 2021 by their Pack's PWD Chair (or designee).
 - d) may be an alternate, for another initially registered Cub Scout, after being confirmed as an alternate through their Pack PWD Chair (or designee) via email at MTCNCDPWD@gmail.com with the NCD PWD Chair. This substitution is permitted after the initial registration but no later than 9:00 PM Friday, May 21, 2021.
 - e) must follow the 2021 NCD PWD Race Rules and the NCD PWD Race Operations Rules.
 - f) and their Racing Team must accept the outcome of each heat and the final results. You are involved in a speed competition where the car could be damaged up to and including beyond repair by no fault of the Racing Team.
- 3) The one car submitted by the registered (or any alternate) Cub Scout is eligible to race in the 2021 NCD PWD Race when it meets the following rules. The car:
 - a) must have been built after August 31, 2020 and prior to the Cub Scout's 2021 Pack PWD Race.
 - b) must be the Cub Scout's personally built car.
 - c) must have been raced on behalf of the Cub Scout in the Cub Scout's 2021 Pack PWD Race.
 - d) must remain in the same configuration that it finished in at its Pack PWD Race. NO alterations EXCEPT adding more graphite and cleaning the racing wheels are permitted.
 - e) name must be registered along with the Cub Scout by the Cub Scout's Pack PWD Chair (or designee).
 - f) must adhere to the 2021 NCD PWD Race Rules and the NCD PWD Race Operations Rules.
 - g) is involved in a speed competition where it could be damaged up to and including beyond repair by no fault of the car.

Check-In

- 1) Check-In is at Wind Gap Fire Company Social Hall at 111 N Broadway in Wind Gap, PA on Saturday, May 22, 2021. Due to COVID-19 restrictions check for your designated Check-In time at www.minsitrails.org. Hover over "Districts" in the blue banner and select the "Northampton District" link and under the "Upcoming Events" select the "Northampton District Pinewood Derby" link.
- 2) The NCD Race Committee is responsible for the proper conduct of the Check-In. Good behavior and good sportsmanship are expected by all attendees. All decisions of the NCD Race Committee are final. The primary goal of the PWD Race is to foster good sportsmanship, thus the NCD PWD Chair (or designee) may disqualify a Racer's car if their party is unable to follow these rules.
- 3) The Racing Team shall complete their portion of the *2021 NCD PWD Check-In* form prior to the Check-In table.
- 4) Once the Racing Team reaches the Check-In table, they will have up to 1 hour to complete the Check-In process. This hour is to allow the Team to perform the Race Committee permitted adjustment(s) to their car and to re-enter the line and arrive back at the Check-In table.
- 5) The first step of the Check-In is to verify that the Cub Scout and their car were registered with and payment was received by the NCD. The bulk of the Racing Team's time spent during Check-In is for the inspection of the car to ensure it is compliant with the 2021 NCD PWD Race Rules. The Check-In table is expected to be manned primarily by adult members of the Order of the Arrow (OA). They are the Car Inspection Team

(CIT). The Check-In table has the NCD PWD scale, the measurement tools, etc. necessary to inspect the car. These tools are the official equipment for the 2021 NCD PWD Race.

- 6) The Cub Scout shall personally submit their eligible car along with their Check-In form to the CIT beginning with the Weight Inspector. The car submitted to race in the 2021 NCD PWD Race must pass the inspection performed by the CIT. The CIT will follow the checklist on the back of the Check-In form which is the 2021 NCD PWD Checklist Rules.
- 7) No person is to unnecessarily interfere with any member of the CIT while a car is being inspected. No person other than Race Officials may enter the track area at any time. No one other than the CIT (during Check-In) and the Race Operations Crew (ROC) may handle any racing car once it is impounded for the Race.
- 8) If the car has an issue(s) during inspection, the inspector will inform the Racing Team of the issue(s). If needed the car will be reviewed by at least the other inspectors and up to the NCD PWD Chair. Each issue will be reviewed on a case-by-case basis. The objective is to have the car *compete*. However, no adjustment(s) may allow a car to gain a speed advantage. In addition, certain issues just cannot be adjusted to comply with Rules. Examples of non-compliance issues are, but not limited to, the use of a non-BSA pinewood block and an extended wheelbase.
- 9) If the CIT permits the issue(s) to be corrected, the Racing Team may adjust the car to be compliant to *compete*. The permitted adjustment(s) shall be completed by the Racing Team. Due to COVID restrictions, the location, tools, and/or supplies required to perform the adjustment(s) are the responsibility of the Racing Team. Racers are to *be prepared* for adjustments. Remember you are given one hour. Once a car has been finally adjusted, it must restart the Check-In process from the beginning.
- 10) The Racing Team must be back at the first Check-In table starting with the Weight Inspector no later than one hour when they first started at the Check-In table. There is no limit to the number of times a Racing Team may return to the Check-In table to check on their adjustment(s) progress.
- 11) If the Racing Team believes that their car is following the 2021 NCD PWD Rules they may appeal (politely) to the full adult CIT that are available. The CIT voting members, by a majority vote, will uphold or overturn the appeal. In the case of a tie vote, the NCD PWD Chair makes the final decision.
- 12) The final step of the Check-In is for the Cub Scout to indicate which end of the car is its rear. The last step of the inspection is the attachment of a sticker to the car's top rear. The sticker has the car's entry number.
- 13) After the car is accepted to race by the NCD Race Committee, it is placed in a designated staging location that is manned by the 2021 NCD PWD Race Operation Crew (ROC). Only the ROC may handle the car. The car remains in this staging location except when it is to race, if it needs repair, if it is to be presented during the Awards Ceremony, or it is returned to the Racing Team by the Racing Committee. Once a car is returned to the Racing Team it can no longer compete in the NCD PWD Race. The Racing Team is responsible for claiming only their car after the end of the Awards Ceremony.
- 14) If a car is not able to meet the NCD PWD Rules, it may still *participate* in the Race. The Racing Team is encouraged to race the car (have fun and practice good sportsmanship). Each individual heat time is available briefly and immediately following the heat on The Champ timer at the track finish line and the overhead screen. However, the final total time nor the car will not be included in the final standings of the cars for a speed award. The car is still eligible to earn a Specialty Trophy.
- 15) Should a car pose a potential hazard to itself, other cars, the track, the facility, or the attendees, the car is to be reviewed by the full adult CIT and NCD Race Committee. The car might perform a pre-race lane qualification check by racing on an interior lane of the track. If the car is determined by a super majority (67%) of all the voting members of the CIT to be a hazard, the car cannot race. PERIOD. (Respect of

others). An unsafe car (or poor behavior/sportsmanship) are the only reasons the Race Committee will not allow a car to race.

- 16) AGAIN, if you strive to *compete* in the NCD PWD Race ensure that your car is compliant with the 2021 NCD PWD Rules!! Understand the Checklist Rules and use the 2021 Guide and ask questions (to the right persons) well before your Pack Race.

Race Operations

- 1) The operation of the 2021 NCD PWD Race is manned by the Race Operation Crew (ROC). The NCD Race Committee is responsible for the proper conduct of the Check-In. Good behavior and good sportsmanship are expected by all attendees. All decisions of the NCD Race Committee are final. The primary goal of the PWD Race is to foster good sportsmanship, thus the NCD PWD Chair (or designee) may disqualify a Racer's car if their party is unable to follow these rules.
- 2) The NCD PWD Race is expected to use a 4-lane 42-foot Best Track® aluminum track with a manual spring release starter pin in concert with a *The Champ* electric timer (timer) that is managed by the GrandPrix Race Manager™ software (software). The software is managed by the ROC Timer Manager.
- 3) A heat is when a group of cars race down. Each heat includes up to 4 cars. Each car races once in each lane for a total of 4 heats per car. Prior to the start of The Race the software will randomly allocate the cars. The total number of heats for the NCD PWD Race equals the total number of cars entered into the software. The timer displays times down to 0.001 of a second and the finishing placement (1, 2 3, and 4) for each car in a heat. The software records times down to the 0.0001 of a second and measures to 0.00005 of a second. The software manages the ranking of all competing cars in the NCD PWD Race.
- 4) Each car's final standing is determined by its total time. Total time is the sum of ALL 4 heat times. The lowest valued total time will be first place for the NCD PWD Race. The slowest heat time is included in the total time. NO heat time is removed or dropped. Average time will not be used.
- 5) Prior to the start of the NCD PWD Race, the ROC Timer Manager along with the NCD PWD Chair (or designee) will publically announce all racing Scouts' names and the car names only once to all in attendance. This is to ensure that every racing Scout is accounted for and entered into the software correctly. Once the Race starts a car *cannot* be inserted into the software. If a Scout's car is found not to be entered with the other cars to compete but should be, that car will race immediately after the official Race. The forgotten car's 4 heat times will be added together and will be included with the final standings.
- 6) During and immediately following the last heat, the NCD Race Committee can inspect a car to ensure constant compliance with the NCD PWD Rules and will act accordingly.
- 7) No person is to unnecessarily interfere with any member of the ROC during race operations. No person other than Race Officials may enter the track area at any time. No one other than ROC may handle any racing car during the Race.
- 8) During the operation of the NCD PWD Race, a Racing Team may appeal to the ROC. Examples include but are not limited to execution of race operation, improper lane placement, heat results, re-inspection, etc. The Racing Team is responsible for making a prompt and timely appeal. The voting members of the ROC, by a majority vote, will uphold or overturn the appeal. In the case of a tie vote, the NCD PWD Chair makes the final decision.
- 9) Electronic Errors: if a temporary timer and/or software malfunction occurs, the heat will be re-run. If a mid-race timer and/or software failure occurs, the ROC and NCD Race Committee will determine the best approach to racing based on the circumstances. All decisions of the NCD Race Committee and the NCD PWD Chair are final.

- 10) Person Interference: if interference is caused by any person (adult, Leader, parent, Scout, Starter, youth, zombie, etc.), the heat will be re-run. Refer to the Car Repair Rule as needed.
- 11) Track Fault: if a car leaves its lane or the track, the ROC may inspect the track. If a track fault is found, the track will be repaired as able. The heat will be re-run. No previous heats will be re-run. Refer to the Car Interference and Car Repair Rules as needed.
- 12) Car Does Not Cross the Finish Line (too slow): if a car is too slow to cross the finish line, the heat will not be called valid. In keeping with the Scout Law and Oath the NCD Race Committee may, with permission of the Racing Team, adjust the car to allow it to at least cross the finish line, if able. Once the car is adjusted the heat will be re-run and called valid (if no further issues). If the car registers a finish time, this actual time will be awarded. If the car does not register a finish time, a time of 6.0000 seconds will be awarded since all times are used towards the total time. The assumption to this rule is that the car does not leave its lane or the track, or is not interfered with, or does not sustain damage during the heat. Refer to the Car Repair Rules as needed.
- 13) Car Leaves its Lane prior to the Finish Line: if a car leaves its lane and proceeds down the track and does not interfere with another car, then the heat will be re-run, even if the car registers a finish time. If, during the re-run of the same heat, the same car leaves its lane again and still proceeds down the track and still does not interfere with another car, then the re-run heat will be called valid. If the car registers a finish time, this actual time will be awarded. If the car does not register a finish time, a time of 6.0000 seconds will be awarded since all times are used towards the total time. The car leaving its lane is defined as the car “jumping” at least once a wheel(s) over a center guide rail and sliding down (for any length) of the guide rail and did not leave the track. Refer to the Car Interference and Car Repair Rules as needed.
- 14) Car Leaves the Track prior to the Finish Line: if a car leaves the track and does not interfere with another car, then the heat will be re-run. If, during the re-run of the same heat, the same car leaves the track again or its lane and/or does not register a finish time and still does not interfere with another car, then the re-run of the heat will be called valid. If the car actually registers a finish time, this actual time will be awarded. If the car does not register a finish time, a time of 6.0000 seconds will be awarded since all times are used towards the total time. Refer to the Car Leaves its Lane and Car Interference and Car Repair Rules as needed.
- 15) Car Interference: if a car physically interferes with another car, then that heat will be re-run. If, during the re-run, the same interfering car physically interferes with another car again, then the heat will be re-run again without the interfering car. The interfering car will be awarded a time of 6.0000 seconds since all times are used towards the total time. Refer to the Car Repair Rule as needed.
- 16) Car Repair: if a racing wheel falls off or the car becomes damaged to the point that it cannot race, then the NCD Race Committee may, with permission of the Racing Team, perform repairs. However, any cosmetic, details, or accessories that fall off are not considered damage to the car. Repairs, ideally, will be performed in front of the camera to allow the Racing Team to assist. Up to 6 minutes will be allotted to complete the necessary repairs to their car. If repairs cannot be completed within the 6 minutes, the car will be retired from racing and the heat will re-run with the remaining cars and the NCD PWD Race will continue. A very limited array of simple tools and/or supplies may be used by the NCD Race Committee. If a car is damaged due to track fault or person interference, the ROC may allow additional repair time.
- 17) Remember all Racing Teams must accept the outcome of each heat and the final results. You are involved in a speed competition where the car could be damaged up to and including beyond repair by no fault of the owner or the car.

Trophy Ceremony

- 1) Prior to awarding the Speed Trophies, the NCD Race Committee may re-inspect cars as needed immediately following the final heat of the Race to ensure constant compliance with the NCD PWD Rules.
- 2) Specialty Trophies:
 - a) A car that is awarded a speed trophy should expect not to be awarded a specialty trophy.
 - b) During the Race, ALL attendees (except the NCD PWD Chair) may vote once for their favorite car for each of the specialty categories listed below.
 - c) The car receiving the most votes in a category will be awarded that trophy/certificate. Should more than one car receive an equal number of votes the NCD PWD Chair will determine the winner among those cars.
 - d) A car cannot be awarded more than one specialty trophy. Should a car receive the most votes in more than one category the NCD PWD Chair will determine the awarded category.
 - e) The 5 Specialty Categories are:

i) Best Cub Scout Theme	iii) Funniest	v) Most Unique
ii) Most Patriotic	iv) Best Not a Car	
- 3) Speed Trophies:
 - a) A car that is awarded a specialty trophy should not expect to be awarded a speed trophy.
 - b) The 3 Cub Scouts per Rank with the fastest cars will be awarded certificates. These certificates are for the 1st, 2nd, and 3rd places for Lions, Tigers, Wolves, Bears, Webelos, and former current year AOLs. These Scouts are then eligible to compete, at their choosing, at the 2021 NYC World Championship Pinewood Derby® Race near Times Square. The NYC Race has historically occurred on the last Saturday of June.
 - c) The 5 Scouts with the overall fastest cars, regardless of the Cub Scout's Rank, will be awarded top speed trophies. These Scouts will most likely also be awarded a 1st, 2nd, or 3rd place trophy in their Rank.

