

**2019 Pack 263  
PINWOOD DERBY RULES**



**Date:** Friday, February 1, 2019  
**Location:** Christ the King Gym  
**Time:** Testing 7 pm to 9 pm

**Date:** Saturday, February 2, 2019  
**Location:** Christ the King Gym

	<u>Check-in Times:</u>	<u>Race Times</u>	<u>Conflicts/BB Games</u>
Arrow of Light	3:00 – 3:25 PM	3:30 PM	** Games at 9:25 AM and 12:40 PM
Webelos	10:00 – 10:25 AM	10:30 AM	** Game at 2:55 PM
Bears	2:00 – 2:25 AM	2:30 PM	**Ladies at 11:45 AM and Boys at 9:00 AM
Wolves	9:00 – 9:25 AM	9:30 AM	
Open Race	12:00 – 12:25 PM	12:30 PM	
Tigers	11:00 – 11:25 AM	11:30 AM	
Lions	1:00 – 1:25 PM	1:30 PM	
Grand Champion	- Following right at the end of the AOL Race		

**Eligibility: Cars and Contestants**

- The 2019 Pack 263 Pinewood Derby Den Competitions are open to all registered scouts with Pack 263 with paid dues for the 2018/2019 school year in their respective dens.
- The open race is open to all family members, friends, former scouts, and former leaders of Pack 263. Anyone in the open race must follow the same rules for racing and design. Cars must be made for this year and cannot reused from previous years.
- Cars in this competition must have been constructed for this race season and must be constructed with parts contained in the **BSA Official Grand Prix Pinewood Derby Car kit (#17006)**. The only exception is **BSA OFFICIAL WHEELS AND AXLES**. **Kits from previous years and from non-official retailers may contain parts that are not sanctioned and may be judged as ineligible.**
- Scouts must be in uniform to race.
- All Scouts will compete against others in the same rank. Racing and Design judging will occur in six classes: Lions (Kindergarten), Tiger (1st grade), Wolf (2nd grade), Bear (3rd grade), Webelos (4th grade) and Arrow of Light (5th grade).
- It is expected that the scout be present to enter his/her car in the competition
- **The Derby Commissioner has final authority on a car’s eligibility to race.**
- Remember that this is supposed to a fun competition between scouts. **Here are recommendations for participation of building the derby cars.** Scouts should be designing and building the majority of their car with help from their parent or an adult. Level of work should be determined by age/grade/den level. For example: an AOL should be making 90% of the car (all but cutting), where a lion or tiger should be doing 30 – 50 % of the work (designing, sanding, and some painting). These are recommendations for participation

**DERBY CAR SPECIFICATIONS**

These specifications will apply to both Speed and Design competitions.

**LENGTH, WIDTH and CLEARANCE:**

- Width—Maximum overall width, including wheels and axels, shall not exceed 2-3/4 inches.
- Minimum width between the wheels shall be 1-3/4 inches so the car will clear the center guide strip.

- Maximum length shall not exceed 7.0 inches (**be advised that some kits contain blocks of pine which are longer and must be cut in advance to meet this standard**).
- Minimum clearance between the bottom of the car and the racing surface shall be 3/8 inch to allow clearance for the center guide strip.
- **Maximum height shall not exceed 2-3/4 inch.** This specification will allow the car to pass under a timing device in an unrestricted fashion.
- Wheelbase (distance between the front and rear axels) may not be changed from the kit body distance of 4-3/8 inches.

#### **WHEELS and AXLES:**

- **Only BSA certified wheels and axles showing the BSA logo on the outside may be used. Beveling, routing, tapering, perforating or any other significant altering of the shape and performance of the wheels is prohibited. The tread may not be modified to enhance its performance and must be a completely flat surface. The tread width must not be narrowed beyond its original width.**
- Axles and wheels may **only** be lightly sanded and polished and still conform to race specifications.
- **Wheel bearings, washers or bushings are prohibited.** This includes wheel covers or “hubcaps” which serve to keep the wheel hubs from contacting the car body and serve as a lubrication “well” or “tap”.
- The car must be free-wheeling with no starting device or other propulsion such as adhesives, magnets, rubber bands, motors, jets, etc.
- Metal frame(s) and axle support(s) are prohibited. Axles must be mounted directly into the wood slots provided in the car body.
- Axles may not be joined together with any device and the four independent axels must be clearly visible in the slots provided in the bottom of the car.
- **When placed on a section of racetrack and rolled, all four wheels must be visibly turning and the entire surface must touch the track section. Cars with one wheel permanently raised above the racing surface will be disallowed.**

#### **WEIGHT and APPEARANCE:**

- Weight may not exceed 5.0 ounces/ 141.75 grams. The readings of the official race scale will be considered final. Five (5.0) ounces/ 141.75 grams will be determined by the official race scale on the day of the race. Every effort will be made to assure that the digital scale is reliable and accurate. The important point is that all will race according to the same standard. Please keep this in mind while weighing your vehicle on other scales.
- The car may be carved, sculpted or sanded in order to enhance its performance and/or appearance as long as the car continues to meet the size restrictions for the race.
- No loose materials of any kind are permitted on or inside the car.
- Cars need to have the scout’s name on the bottom. It will be given a number during check-in to ensure correct placement for design voting and race scheduling.
- Additional materials may be added to the car for the following purpose(s) only:
  - Weights may be added to increase the weight and/or alter the weight distribution of the car.
  - Paints/decals/decorations may be added to alter the appearance and/or aerodynamics of the car. If using glitter, car must be clear coated.
  - Glue may be used to adhere the axels to the car body.
  - Wood putty, or a similar substance, may be used to repair minor damage to the car.
  - Any undermounted lighting must adhere to ground clearance rules and dimensions to be eligible to race.
- Indented noses are prohibited. Cars like the one pictured below will “stage” further down the track and thus are not traversing the same distance as the other cars.



Front of car

- **Front of car cannot be beveled and must be flat to meet the starting pin.**
- Wheels must not extend beyond the front of the car body.
- **Detailing must not include any reference to alcohol, smoking or drugs.**
- **The underside of the car must not be painted to verify that the proper wood has been used.**

**LUBRICATION:**

- Only dry powdered lubricants, such as graphite or white powder Pinewood Derby Car lubricant, may be used. Oils and silicone sprays can foul the track and are prohibited.
- A car may be lubricated just prior to inspection. This is the only time on race day that a car may be lubricated.

**GROUND RULES:**

- If a car leaves a track, the heat will be run again. If the same car leaves the track a second time, it will automatically lose that heat.
- If a car suffers a mechanical problem and a repair can be accomplished within 5 minutes, the heat will be run again. If not, the car will automatically lose the heat.

**INSPECTIONS and DISPUTES:**

- Each car must pass inspection by the Official Inspection Team before it may compete. The Inspection Team has the right to disqualify those cars that do not meet the rules. Car owners will be informed of the violations and given an opportunity to modify the car to meet these rules. Modifications must be successfully completed prior to the end of the race inspection period.
- Un-sportsmanlike conduct by any participant or member of the audience will be grounds for expulsion from the competition and/or race area.
- Track officials are responsible for the proper conduct of the competition. The decisions of these Officials on questions of rule interpretations and procedure may be appealed to the Derby Commissioner, but the Derby Commissioner's decisions on all matters are final.

**CONDUCT OF THE RACES:**

The racing format will consist of several heats to determine the top 8 of the Den with the fastest times. The lane rotation is determined by the racing software. The top 8 cars for each den will move to the double elimination round to determine the 1<sup>st</sup> and 2<sup>nd</sup> place cars.

Car handling responsibility will fall solely upon the Scout who will be responsible for staging their car at the start, retrieving the car at the finish and returning the car to the pit area after the heat has been run. A scout with physical limitations may nominate a proxy subject to the approval of the Race Chairman.

**RACING SURFACE:**

The racing surface is an aluminum extruded track. Total racing distance will be approximately 34 feet and the starting pin used will be a 1/4" diameter rod extending at least 1" in height above the center of the guide rail on the starting line. The guide rail is a raised aluminum strip 1-3/8 to 1-5/8" wide and 1/8" high extending the length of the track which the car will straddle on its course to the finish line.

The starting gate will be approximately 48" above the floor. The slope will drop at approximately 30 degrees until the floor is reached and will then continue horizontally to the finish line. The finish line will be an optical sensor centered within each guide strip with will measure accurate time down to 1/1,000<sup>th</sup> of a second (0.001 seconds). These results will be uploaded via a serial port to a computer that will determine the winner and project the results to large screens visible to the entire audience.

**CONDUCT OF BEST DESIGN COMPETITION:**

The Design competition awards this year will be determined by a popular vote. Each car entered in the competition for Race will receive an official Design ballot. Votes will then be cast for the three cars, which the individual casting the ballot concludes are most deserving of the award. Design judging will occur with the cars displayed side by side in assigned places on a display table grouped with their competitors. Design awards will be presented at the completion of each race and will be based on, but not limited to, craftsmanship, novelty and creativity.

Only one vote is allowed per individual for 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> place choice is allowed.

**AWARDS:**

Trophies will be presented to the First, Second and Third places for Speed and to the First, Second and Third place finishers for Design competitions for each rank of scout. A scout cannot receive two trophies for the derby and if there are any conflicts, the scout and their parent/s will be presented with all options from Race Officials to make a choice. Race Officials will adjust the winning brackets accordingly to assign the ranks once all conflicts are resolved.

A competition to determine the Grand Champion in speed and design will be held at the conclusion of all of the rank competitions and will consist of a double elimination speed final.

# **Northwest District Rules**

## 2019 NORTHWEST DISTRICT PINEWOOD DERBY RULES

<b>Date:</b>	Saturday, March 9, 2019	
<b>Location:</b>	Epworth United Methodist Church Family Life Center 4855 Central Avenue, Toledo Ohio 43615	
	<b>Check-in Times:</b>	<b>Race Times</b>
Arrow of Light	9:00 – 9:25 am	9:30 am
Webelos	10:30 – 10:55 am	11:00 am
Bears	12:15 – 12:40 pm	12:45 pm
Wolves	2:00 – 2:25 pm	2:30 pm
Tigers	3:45 – 4:10 pm	4:15 pm
Grand Champion		6:00 pm



### Eligibility: Cars and Contestants

- The 2019 competition is open to all 1st and 2nd place Northwest District Pack Champions in both the Speed and the High Tech and Traditional Design categories. Alternates should be chosen in each category at the Pack level in the event a scout is unwilling/unable to race/show at the district level.
- Cars in this competition must have been constructed for this race season and must be constructed with parts contained in the **BSA Official Grand Prix Pinewood Derby Car kit (#17006)**. The only exception is **BSA OFFICIAL WHEELS AND AXLES**. **Kits from previous years and from non-official retailers may contain parts that are not sanctioned and may be judged as ineligible.**
- Scouts must be pre-registered to race/show by the registration deadline. (Note to parents: Your Pack takes care of this) There will be no exceptions to this rule as pre-registration allows prior compilation of a racing schedule and helps to facilitate appropriate time allotments for racing. Registration deadline will be **Friday, March 1, 2019**. Scouts not registered in advance cannot participate. The registration fee will be **\$7.00 per scout** and must be paid for all scouts entered in either the speed or 2 design competitions. Alternates will not pay a registration fee. Historically, the Pack has chosen to pay these fees for their competitors. **Registration and payments will be submitted ONLINE at [www.erieshorescouncil.org/nwpwd](http://www.erieshorescouncil.org/nwpwd)**
- Scouts must be in uniform to race at the district level.
- All Scouts will compete against others in the same rank. Racing and Design judging will occur in five classes: Tiger (1st grade), Wolf (2nd grade), Bear (3rd grade), Webelos (4th grade) and Arrow of Light (5th grade). In cases where the Cub Scout rank is indeterminate, enter the scout according to his/her grade in school.
- It is expected that the scout be present to enter his/her car in the competition. In the case of illness or a valid conflict, an absent scout may be represented by an authorized proxy defined as a sibling or a Cub Scout of similar age who is not already competing in the same set of heats. Proxy authorization must be obtained prior to the race by the Northwest District Race Chairman.
- A car may be entered in one event only (Speed or 1 Design Category).
- Lions will not race or participate in the design completions at the district level.

### DERBY CAR SPECIFICATIONS

These specifications will apply to both Speed and Design competitions.

#### **LENGTH, WIDTH and CLEARANCE:**

- Width—Maximum overall width, including wheels and axels, shall not exceed 2-3/4 inches.
- Minimum width between the wheels shall be 1-3/4 inches so the car will clear the center guide strip.
- Maximum length shall not exceed 7.0 inches (**be advised that some kits contain blocks of pine which are longer and must be cut in advance to meet this standard**).

- Minimum clearance between the bottom of the car and the racing surface shall be 3/8 inch to allow clearance for the center guide strip.
- **Maximum height shall not exceed 2-3/4 inches for Speed.** This specification will allow the car to pass under a timing device in an unrestricted fashion. **\*\*Design Class at the district level does not have a height restriction.**
- Wheelbase (distance between the front and rear axels) may not be changed from the kit body distance of 4-3/8 inches.

#### **WHEELS and AXLES:**

- **Only BSA certified wheels and axles showing the BSA logo on the outside may be used. Beveling, routing, tapering, perforating or any other significant altering of the shape and performance of the wheels is prohibited. The tread may not be modified to enhance its performance and must be a completely flat surface. The tread width must not be narrowed beyond its original width.**
- Axles and wheels may **only** be lightly sanded and polished and still conform to race specifications.
- Wheel bearings, washers or bushings are prohibited. This includes wheel covers or “hubcaps” which serve to keep the wheel hubs from contacting the car body and serve as a lubrication “well” or “tap”.
- The car must be free-wheeling with no starting device or other propulsion such as adhesives, magnets, rubber bands, motors, jets, etc.
- Metal frame(s) and axle support(s) are prohibited. Axles must be mounted directly into the wood slots provided in the car body.
- Axles may not be joined together with any device and the four independent axels must be clearly visible in the slots provided in the bottom of the car.
- **When placed on a section of racetrack and rolled, all four wheels must be visibly turning and the entire surface must touch the track section. Cars with one wheel permanently raised above the racing surface will be disallowed.**

#### **WEIGHT and APPEARANCE:**

- Weight may not exceed 5.0 ounces/ 141.75 grams. The readings of the official race scale will be considered final. Five (5.0) ounces/ 141.75 grams will be determined by the official race scale on the day of the race. Every effort will be made to assure that the digital scale is reliable and accurate. The important point is that all will race according to the same standard. Please keep this in mind while weighing your vehicle on other scales.
- The car may be carved, sculpted or sanded in order to enhance its performance and/or appearance as long as the car continues to meet the size restrictions for the race.
- No loose materials of any kind are permitted on or inside the car.
- To avoid cars being misplaced or separated from their owners, all cars must have the scout’s full name and unit number on the underside.
- Additional materials may be added to the car for the following purpose(s) only:
  - Weights may be added to increase the weight and/or alter the weight distribution of the car.
  - Paints/decals/decorations may be added to alter the appearance and/or aerodynamics of the car. If using glitter, car must be clear coated.
  - Glue may be used to adhere the axels to the car body.
  - Wood putty, or a similar substance, may be used to repair minor damage to the car.
  - Any undermounted lighting must adhere to ground clearance rules and dimensions to be eligible to race.
- Indented noses are prohibited. Cars like the one pictured below will “stage” further down the track and thus are not traversing the same distance as the other cars.



Front of car

- **Front of car cannot be beveled and must be flat to meet the starting pin.**
- Wheels must not extend beyond the front of the car body.
- ***Detailing must not include any reference to alcohol, smoking or drugs.***
- **The underside of the car must not be painted to verify that the proper wood has been used.**

**LUBRICATION:**

- Only dry powdered lubricants, such as graphite or white powder Pinewood Derby Car Lubricant, may be used. Oils and silicone sprays can foul the track and are prohibited.
- A car may be lubricated just prior to inspection. This is the only time on race day that a car may be lubricated.

**GROUND RULES:**

- If a car leaves a track, the heat will be run again. If the same car leaves the track a second time, it will automatically lose that heat.
- If a car suffers a mechanical problem and a repair can be accomplished within 5 minutes, the heat will be run again. If not, the car will automatically lose the heat.

**INSPECTIONS and DISPUTES:**

- Each car must pass inspection by the Official Inspection Team before it may compete. The Inspection Team has the right to disqualify those cars that do not meet the rules. Car owners will be informed of the violations and given an opportunity to modify the car to meet these rules. Modifications must be successfully completed prior to the end of the race inspection period.
- Un-sportsmanlike conduct by any participant or member of the audience will be grounds for expulsion from the competition and/or race area.
- Track officials are responsible for the proper conduct of the competition. The decisions of these Officials on questions of rule interpretations and procedure may be appealed to the event Chairman, but the Chairman's decisions on all matters are final.

**CONDUCT OF THE RACES:**

The racing format will be a modified Stearns method consisting of several heats. An equal number of races will be run on each lane to minimize any discrepancies between the racing surfaces of each lane. The car with the lowest average time shall be declared victor. In the event of a tie, a tiebreaker race will be held to determine the winner.

Car handling responsibility will fall solely upon the Scout who will be responsible for staging their car at the start, retrieving the car at the finish and returning the car to the pit area after the heat has been run. A scout with physical limitations may nominate a proxy subject to the approval of the Race Chairman.

**RACING SURFACE:**

The racing surface is an aluminum extruded track. Total racing distance will be approximately 34 feet and the starting pin used will be a 1/4" diameter rod extending at least 1" in height above the center of the guide rail on the starting line. The guide rail is a raised aluminum strip 1-3/8 to 1-5/8" wide and 1/8" high extending the length of the track which the car will straddle on its course to the finish line.

The starting gate will be approximately 48" above the floor. The slope will drop at approximately 30 degrees until the floor is reached and will then continue horizontally to the finish line. The finish line will be an optical sensor centered within each guide strip with will measure accurate time down to 1/1,000<sup>th</sup> of a second (0.001 seconds). These results will be uploaded via a serial port to a computer that will determine the winner and project the results to large screens visible to the entire audience.

**CONDUCT OF BEST DESIGN COMPETITION:**

The Design competition awards this year will be determined by a popular vote. Each car entered in the District Championship competition for Race or Design will receive an official Design ballot. Votes will then be cast for the three cars, which the individual casting the ballot concludes are most deserving of the award. Design judging will occur with the cars displayed side by side in assigned places on a display table grouped with their competitors. Design awards will be presented at the completion of each race and will be based on, but not limited to, craftsmanship, novelty and creativity.

Only one vote is allowed per individual for 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> place choice is allowed. Ballots with less than 3 votes will not be counted.

**NEW FOR 2019: HIGH TECH DIVISION.** Cars that include any lights, electronics, or black light/glow material will be placed in this division. This will be a separate contest from the TRADITIONAL design competition. There will be a 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> place for each division.

**AWARDS:**

Trophies will be presented to the First, Second and Third places for Speed and to the First, Second and Third place finishers for Design competitions for each rank of scout.

A competition to determine the Grand Champion in speed will be held at the conclusion of all of the rank competitions and will consist of a double elimination speed final.