

2021



SLINGSHOT™ Rule Book w/ Maintenance & Set Up

WWW.SPEEDWAYENTERTAINMENT.COM

For All Weekly and Tour Races

RULES FOR 2021

- 1. All cars raced must be exclusively supplied by the manufacturer, Speedway Entertainment. Engraved Slingshot plates must not be removed. 2021 Registration and inspection mandatory.**
- 2. Absolutely no structural modifications (welding, cutting, additions or brackets). The bodies must remain as supplied by the manufacturer and must fit the templates. All bends, rolls and holes must be within 3/8" of an inch of the certified Slingshot body.**
- 3. You can adjust your car anyway you want but don't cut, grind, drill or weld any components.**

A. Coil Spring adjustment with sleeve & nut allowed.

B. Panhard length: Front 16" Rear 14"

C. Weight ballast: No liquid or loose weight allowed. . Add-on weight cannot be outside of cockpit and must be secure.

D. Rear axle must be SE supplied solid. Cars must be 2 wheel drive at all times.

E. Coil Spring 60, 80, 100, or 120 lb. only. You can mix and match. One coil over spring maximum per corner.

4. 68 tooth gear sprocket maximum. All sprockets must be complete, no teeth missing or added holes drilled.

5. Tires: Maintained durometer readings

A. 16-650 and 18-950 minimum durometer reading: 60

B. Front asphalt minimum durometer reading: 65

C. All cars checked must be within 4% of each other. EX: If all cars durometer at 62 your tire cannot be more than 2.48 lower than that.

Offset Rule: The outside surface of the right rear tire on a All Star Slingshot must be a minimum of 17" outside the main frame rail of the car.

Tires: Carlisle/DURO branded $\$Y\$, dealer purchased only$

A. 16 X 6.50 only L $\$$ tire allowed. No tire softeners.

B. All legal Slingshot tires allowed on R $\$:$ 16 x 6.50, 18X 8.50 or 18 X 9.50 DURO or Carlisle, Sawtooth, both front and rear. No adding grooves or siping is allowed.

C. All Slingshot tires may be used on all racing surfaces. Except sawtooth must be used on RR for outdoor asphalt racing

Wheels: Aluminum right rear is mandatory and is the only wheel used for right rear. Steel Slingshot wheel only on other 3 corners. Wheel Covers / Bead Protectors allowed on all 4 wheels.

NO welded reinforcement on any wheel will be permitted at all. RR wheel reversal is not allowed.

Clutch: Only 2 clutches are legal. SE Manufactured 4 Shoe 40 Chain or Noram 1800 Series clutch allowed; Springs as supplied by SE.

Front Axle: Maximum caster is 5 degrees. No cutting or welding of front axles. Must be purchased from an authorized dealer and made by Speedway Ent. Halving of damaged axles is done at SE.

Body: No body older than 2011 will be legal.

Brakes: Hydraulic (Wilwood) and mechanical systems are allowed. All components must be used as supplied by an official Slingshot dealer. All must remain stock with no modifications and purchased from a certified dealer. Any pad legal. Brake air ducts allowed.

Brake Rotor: Must not be any thinner than 5/16" or have more than 4 -1 1/4" lightening holes.

Engine: Briggs & Stratton Vanguard SE built engines only. Metal WIRE SEALS mandatory. 3 metal stamp seals are not legal. Cylinder head sheet metal can be removed. Red engine seals will no longer be legal as of Jan 1, 2022.

B. No modifications to engine. No oil additives.

C. The only allowable adjustments are idle, speed jets, valve lash, carb jets, valve spring shimming, spark plug and flywheel timing.

D. All replacement parts for Model 35 must be original Briggs & Stratton manufactured engine parts (no grinding, polishing, lightening, changing size or location of any part).

E. Only K&N RD-0720 or RU 0830 Air Filters allowed.

Fuel: No additives including fuel lubes, must pass test given. 99% pure alcohol only. Loss of points and wins if failed.

Clutch: Clutch must remain as supplied with no modifications to drum, driver or shoes. Only a 10 tooth driver #40 chain is mandatory. Chain oilers will be allowed.

Carburetor: Must remain stock appearing without any external modifications. NO material can be removed or added. Air bleed holes and jet size may be modified. Multiple carb spacers may be used but must match inside stock dimensions. Absolutely no plastic fuel lines or filters.

Carb. airflow cannot be improved or altered, using only stock butterflies & screws. Carb stack flange base may be altered. No material can be added.

Intake manifold area can be ground & polished 5/8" above and below the carb. manifold spacer. Casting marks must remain.

Slingshot approved mufflers are mandatory. Muffler must be attached to end of exhaust pipe. No modifications. Exhaust fins must be no farther apart than 1/4". All exhaust must go through muffler. Muffler must be in working order and mounted to start all events. 9/16" hole max at end of muffler.

All engine work other than allowable adjustments must be done by Speedway Entertainment and seals must be intact. A \$250.00 fine will imposed for each seal infraction.

All 12 magnets on flywheel must be in place for all cars.

All bumpers, front axles, etc. must be Slingshot™ certified. Components must remain the exact dimensions and thickness of the original. Steel or aluminum heim ends will be allowed.

All chassis repair must be performed by Speedway Ent.

The use of Titanium and/or Carbon Fiber is not allowed on a Slingshot.

Weight: Minimum car weight after race with driver must be 750. All added weight must be bolted to weight tabs and cannot extend past cockpit. Aluminum Flywheel is allowed for cars weighing over 810 lbs. Junior weight will be 695 min.

Shocks: SE, ST55 & St55-2R stamped Bilstein. 4 Bilstein Shocks must be used. Helper springs or coil rubbers allowed. OEM shock use only.

Fuel Cells: Mandatory for all events. No bolted on plastic tanks will be allowed. No added weight allowed in tank. Cap flange must have retaining ring inside tank.

Top finishers may be asked to use track supplied fuel.

Speedway Ent. has the right to impound any engine or car for complete evaluation. Any part found not to be within the rules will not be returned to competitor and team will lose all points.

Slingshot™ manufacturer reserves the right to reject any car from competition with penalties possibly forthcoming .

All protests must be in writing to Speedway Entertainment

Rule infraction penalties : Any fuel, engine seal or internal engine violation will result in loss of all tour points and parts. Violation could result in all season points loss pending severity. Other rule violations will result in loss of illegal part (s), DQ and points for that night.

Car inspection must be done by Slingshot dealer, tour or track tech official or at Speedway Entertainment.

Communications: One way track radio only allowable communication. No cell phone or 2 way with any crew member or family allowed. Forfeiture of money and points for that event will be administered.

Junior Velocity Stack Adapter (Carb Plate): No beveling and no more than 1" center opening. Plate cannot be more than 1/4" thick.

Spark Plugs: Spark plug choice is decided upon by team.

Steering Wheel: Any size steel or aluminum wheel can be used.

Front End Allowances: Radius Rods 10" Tie Rod Ends 13 1/2"

Gauges: Tach, CHT, fuel pressure and oil pressure are only gauges allowed. No exhaust temp. gauge or oxygen sensors allowed.

Flywheels: Lightened, altered or after-market flywheels are illegal. Speedway Ent supplied stock flywheel only and must remain that way. Approved aluminum flywheels are legal for all cars with a weight over 810 lbs. Flywheel fans will be optional. Aluminum flywheel not allowed in Junior Class . No sheet metal hiding flywheel is allowed scale person must be able to see flywheel easily .

Transponders: Transponders will be mounted 6" from track surface with specific location being the arm cutout across from safety belt bolt tab.

Juniors: The recommended age for the Junior class is 8-14, based on weekly track averages. Under age of 8 driver is full responsibility of parent or guardian. Minimum weight for Junior class is 695 lbs. Juniors must run a 1 bbl. Carb with .526 bore and no airflow modifications allowed.

Purse Structure: Weekly purse structure will be set by that speedway. Regional and National touring events payouts are suggested. Track point fund is solely their responsibility. **ALL RULES EFFECTIVE : JANUARY 1,2021.**

Speedway Ent. is not responsible for any race track procedural rules.

Basic Set-up

1. Great set-ups are done by trial & error. Keep good records.

2. Chassis Height: Rear 2 1/2-3 Front 2- 2 1/2

More height=more side bite and less forward bite

Less height=less side bite and more forward bite.

3. Tire Stagger : 1/4 mi. track 4-1 1/2" stagger

1/8—1/5 mile track 5 1/2—3" stagger

4. Tire Pressure: LF—4 -6 lbs. RF— 6—9lbs.

LR—6—12lbs. RR—16—35lbs.

More air in rear tire loosens car up: use air to work with stagger.

5. Panhard Height: Higher loosens entry and tightens exit. Lower tightens entry and loosens exit.

6. Wheel Weights:

Loose set-up: LR 165 / RR 180 lbs.

Tight set-up: LR 180 / RR 165 lbs.

7. Right Front Inset : Measure by running string across the outside of the RR tire and stretch it to front tire. Measure distance from string to outside of front tire.

Greater the measurement the looser the car

Smaller the measurement the tighter the car.

Example: 2"—5" this can be adjusted by moving your wheel on the axle or shortening or lengthening the rear panhard bar.

8. Toeout should be set at 3/16" out. Scribe a circle around the tire on each side in the front. Measure between the 2 lines 3/16" out.

9.Front Axle : Make sure front axle is square. Measure from crossbar back to axle.

10. Wheelbase : RS will always be longer than LS by 1/2" to 1 1/2".

11.Front Radius Rods: Must be bind free.

Leave 1/16" —1/8" gap at front radius rod bolt.

12.Be sure all suspension parts are lubed and bind free

13.Coil Springs: 1/8—1/5 mi. LF 60 / RF 80

1/4—1/3 mi. LF 80 / RF 80

Soften corner for more bite.

14.Gearing : Maximum of 6100 RPM's.

1/10—1/7 mi. track 5.90—6.40

1/5 mi track 5.55—5.75

1/4 mi. track 4.90—5.20

1/3 mi. track 4.50—4.80

DO NOT turn engine over 6100 RPM's .A rev limiter is suggested.68 tooth gear maximum. Sprockets must be used as supplied, no added holes or missing teeth.

World Championship Information:

Both All Stars and Juniors will have their World Championships decided by the following 3 criteria:

- 1.Highest point standing in weekly or national series points.
- 2.Best weekend average after attending Super National weekend.
* Cannot compete in more than 2 Super National Weekends*
- 3.Points earned during the World Championship Weekend
Each race counts separately

Super National Regions:

(Canada) (Empire) (Keystone)
(Great Lakes) (Mountain) (Sunshine)

Maintenance...

SLINGSHOTS™ are real race cars and must be treated as such to be competitive. If you are unsure about anything posted in this manual, contact a certified Slingshot™ dealer for assistance. Illegal performance enhancement will be dealt with accordingly.

A clean car will assist in your maintenance program.

All moving parts such as helms, throttle bellcrank, throttle shaft, etc. must be lubed with WD-40 or equivalent. All grease fittings should be greased every race.

Make sure all nuts and bolts are tight after every race, especially headers, lug nuts, radius rod bolts, motor plate and clutch bolts.

Brakes: Re-adjust and check brakes after every event. Move the arm on the caliper and back it off the 1/4" jam bolt 3-5 turns. Turn large spanner nuts clockwise until brakes have a slight drag on rotor. Tighten jam bolt with bottom as far towards the rear of car as possible, then adjust stop at pedal. Place grease between plunger and back of shoe every 5 races to prevent sticking.

Carburetor: Carb is modified for alcohol. Do not use stock carb or parts. Keep carb clean and free of dirt when removing. Take fuel line off on the inlet side of filter. Alcohol will gel if you let it sit more than 2-3 days. Run car every 2-3 days to circulate fuel or it can be drained and gas can be filled into the carb, through the fill line. If carb doesn't work properly at first, It must be completely disassembled and blown out thoroughly with compressed air. Float must be checked for correct height. When carb is held upside down float must be level with the base of up 1-2 degrees. If float is angled down fuel will bypass needle and fuel will come out top vent tube. (Do not plug vent) Rubber bowl gasket will expand when removed, wait about 7 minutes to return to size. Have a spare ready. Main jets are behind 12MM screws. Jet number must be checked with number drill. Stock is between .063 & .065. Spare carb is advised.

Engine: 5-30 syn. oil is advised after a 1 race break-in. Do not use heavier oil or additives. Oil level to be 1/2 full to full on the stick and must not be milky. Do not clean the inside of the blower housing with a high pressure hose. Line up exhaust gaskets with the header. Set coil gap with a business card. If car is running on 1 cylinder remove diode wire between coil. If it runs on both cylinders, replace wire. Coil work on ground only. Do not hook positive wire to coil terminal on side cover.

When starting engine be sure the rear wheels are off the ground. On cold days under 50 degrees turn both idle screws to 1 out and cover blower inlet to warm engine quicker. Once CHT is up to 180, idle screws are to be returned to 3 turns out

This will keep the engine oil from getting milky. (DO NOT race with milky oil) DO NOT race with engine under 200 degrees. Engine rebuild should be every 25-40 races. Suggested valve settings are 0.010 for intake & 0.012 for exhaust.

Fuel Pressure: Fuel pressure should be set at 3 to 4 lbs. Idle mixture screw should be set at 2 1/2 to 3 1/2 turns out.

Chain : Chain alignment should be done with great precision. Make sure crankshaft is square with the rear axle. Hold a straight edge on the outside of the gear to line up the axle gear with the clutch gear. The chain must be kept with 1/4-1/2 of free play. FYI: Chain life can be extended by soaking chain in engine oil. Oil chain after each time on the track. Do not get oil on the clutch. To remove the chain from the car or replace, remove L5 bearing cam bolts and slide through gap. The spare chain can be slid through in a pinch. Chain life is approximately 10-15 races.

Any part not covered in 2021 Rulebook will be clarified at time of car inspection or in supplied photos. Race team is responsible for all lab costs if fuel test fails. Parts must be used and sold by SE.

2020 Champions

All Star World Champion: SCOTT NEARY

Empire Series: TUCKER JONES

Northeast Series: BRETT BIEBER

2020 All Star Track Champions

Action Track: Sam Neary

Caroga Creek: Brett Putnam

Glen Ridge Raceway Park: Dan Ballard

Hamlin Speedway: Scott Neary

Hamlin Speedway Super Slingshots: Mike McLaughlin/ Wes Hearn

Linda's Speedway: Brett Bieber

Shellhammers Speedway Wednesday: Dylan Hoch

Shellhammers Speedway: Riley Hummel

Snydersville Raceway: James Benz

Spirit Auto Center Speedway: Ryan Davies

Junior World Champion: PAUL HARTWIG III

Empire Series: BROCK PINKEROUS

Northeast Series: AIDAN DONALDSON

Action Track: Aidan Donaldson

Autodrome Drummond: Charlotte Morin

Buffalo River Speedway: Joseph Lewis

Estevan: Ryder Raynard

Glen Ridge Raceway Park: Lucas Duncan

Hamlin Speedway: Aidan Donaldson

Jamestown Speedway: Joseph Banish

Mississippi Thunder Speedway: Mason Stockhausen

Northwest Florida Speedway: Kyndal Kimmons

Shellhammers Speedway Wednesday: Wyatt Taschler

Shellhammers Speedway: Kaitlyn Swist

Snydersville Raceway: Charlene Benz

Southern Raceway: Abby Cauley

Tri County Speedway: Kyndal Kimmons

**Always remember
racing is a sport
have fun !!**



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