



POWRi New Mexico Winged Sprint Car Series Specifications

I. Section 4 - Engine Rules

- a. 360 Cubic Inches: plus 1% maximum displacement (360 plus 1% = 363.6).
- b. No aluminum blocks. No Titanium in engines, excluding valves and valve retainers.
- c. Injectors: 2 3/16 inch maximum inside diameter of injector stack - 2.187 at least 3 inches in length. Note: Larger injectors may be used but sleeves a minimum of 3 inches in length must be installed in stacks above the Butterflies. No relief hole may be drilled above the Butterfly on any injector. No Alteration of injector manifold mounting holes will be allowed.
- d. Due to manufacturing process some injector stacks may be slightly larger. There will be a tolerance of .005 allowed on no more than 3 stacks. No throttle body or plenum type injectors allowed, No down nozzle injectors.
- e. No timed fuel injectors will be allowed. Electronic fuel injection shall not be allowed. Only one injector nozzle and one injector line per cylinder.
- f. Injection unit shall have one shaft operated butterfly per cylinder. The immediate area of the butterfly must be round. No slide or barrel type injectors will be allowed.

II. Cylinder Heads

- a. List of Cylinder Heads approved for POWRi competition is as follows:
 - i. Chevy - #27-211
 - ii. B. Ford- #27-223
 - iii. C. Mopar- #27-222
- b. Spec Heads:
 - i. No Porting or polishing past the first 3/4 inches of intake and exhaust ports
 - ii. No Titanium in engines, excluding valves and valve retainers.
 - iii. Injectors: 2 3/16 inch maximum inside diameter of injector stack - 2.187 at least 3 inches in length. Note: Larger injectors may be used but sleeves a minimum of 3 inches in length must be installed in stacks above the Butterflies. No relief hole may be drilled above the Butterfly on any injector.
 - iv. Only one injector nozzle and one injector line per cylinder.

III. Chassis Specifications.

- a. 1. Weight Rule: Weight rule is 1475 lbs., including the driver, at the conclusion of the race.
 - i. Any bolt-on weight must be painted white and the car number must be on the weight. Loss of any bolt-on weight during competition will disqualify the individual from that event. Bolt-on weight can only be added in the areas designated in the accompanying diagram.
 - ii. The weight must be securely attached and must remain in place during a race. It must not be moved or removed during a red flag situation. We reserve the right to disqualify any individual whose weight mounting procedure does not meet our specifications.
- b. The roll cage must be of a four-post design. No dirt champ cars. No elliptical (oval shaped) tubing used on or as part of the main frame structure.
- c. Minimum wheelbase of 83 inches, maximum wheel-base of 90 inches. No pieces may be added to the frame so as to resemble, imitate or be specifically designed to deflect, trap or form a wind break of any nature, except those used to cool/protect the motor and braking system.
- d. No roadster type chassis allowed, only sprint appearing type bodies, tails and hood will be allowed.
- e. Slip-tubing is not allowed in the chassis construction. Any existing slip-tubing must be replaced or welded. Clamped or bolted slip tube joint will no longer be allowed.
- f. Titanium front axles nerf bars and/or rear bumpers will not be permitted. Nerf bars and rear bumpers must be made from magnetic steel and/or stainless steel. Left and Right Nerf bars must attach to the chassis at three points. The bumpers must be a minimum of one (1) inch in diameter and have a minimum material thickness of .065 inches. The nerf bars must not extend past the outside edge of the tires.
- g. No aluminum frames or draglinks. Tie Rods and Left Front Radius Rods may be aluminum, but highly recommended they be 4130 steel with magnetic steel rod ends. Swaging of the tubing will not be permitted. The drag links must be tethered to the frame with a minimum of one (1) inch nylon webbing.
- h. Carbon Fiber connecting rods having to do with suspension or steering are not permitted.
- i. All drive lines must be broken in the coupler or rear slider, fully enclosed and contains no more than one U-joint or C-V joint. No torque arm drive lines allowed. A safety strap or hoop that is securely attached to the chassis is required. Driveline components may not be Carbon Fiber.

- j. Mufflers: Mandatory, (unless otherwise stated). Schoenfeld part #14272735-78.
 - i. Loss of muffler will result in disqualification when mufflers are required.
- k. Headers: Must be a minimum of .045.
- l. Steel, Aluminum or Titanium brake rotors only.
- m. The maximum distance from the leading edge of the front bumper to the leading edge of the front torsion tube is a maximum of 8". The maximum distance from the leading edge of the front bumper to the leading edge of the front axle is 23 1/2 inches.
- n. No hollow, tubular or drilled out bolts allowed.
- o. The right-side opening must be a minimum of 10 inches vertical at any point and 21 inches horizontal.
- p. The right-side panel (armguard) will be permitted to extend a maximum of 7 inches as measured from the outside edge of the middle frame rail and must remain above the middle frame rail.

IV. Wing Specifications

- a. Top Wing:
 - i. Center Foil maximum size of 25 square feet with a maximum width of 60 inches with a one degree plus or minus tolerance.
 - ii. Center Foil shall be fully sheathed in aluminum. Vent holes are strictly prohibited.
 - iii. No wicker bills or Gurney lips permitted on Center Foil unless center foil is totally flat then a two-inch wickerbill is allowed.
 - iv. Other than the slider mechanism, no moving parts allowed on or in foil structure.
 - v. The 12-inch section located at the rear of the Center Foil must not have the belly/curl arc out of proportion with the rest of the Center Foil.
 - 1. The belly/curl arc must span the entire length of the Center Foil and appear to be a gradual arc with the deepest point no further back than 48 inches from the leading edge.
 - 2. As measured on a 12-inch straight edge, the belly at 6 inches from the rear of the Foil may not be deeper than 1/2 inch. There is zero tolerance on this 1/2 inch depth.

3. It is suggested that the wing blue print specify 15/32-inch depth, so that if any deflection or movement of the wing occurs, the depth will not exceed the ½ inch specification. (This ½ inch measurement ensures that the belly/curl arc is gradual.)
- vi. The belly/curl arc must start at the radius of the Center Foil's leading edge and shall not exceed a depth of 2½ inches. Center Foil thickness cannot exceed 9 inches. Center Foil top surface from side to side must remain flat. Center Foil must be one-piece construction. No split or bi-wings will be permitted. Wings must be fabricated of metal alloys only. No fiberglass, carbon fiber or other similar material may be used in the basic framework of the wings. Top wing must not extend beyond outside of rear tires.
- vii. Two stationary foils or rudders will be allowed to run the entire length of the underneath portion of the top wing. Maximum height proportions are 1 inch at the front and 3 inches at the rear. Nowhere shall the foil exceed 3 inches in height. The top wing can be cockpit/driver adjustable.

b. Front Wing:

- i. Center Foil maximum size of 6 square feet with a maximum width of 36 inches with a one degree plus or minus tolerance.
- ii. Center Foil shall be fully sheathed in aluminum. No vent holes allowed.
- iii. Wicker bills up to 1-inch are allowed on nose wing, flat or dished.
- iv. Maximum distance from the Center Foil front edge to the front edge of the front axle may not exceed 20 inches.
- v. The Center Foil front edge must remain at least 1 inch behind the front edge of the front bumper. Center Foil top surface from side to side must remain flat.
- vi. Center Foil must be one piece. No split or bi-wings will be allowed.
- vii. Wings must be fabricated of metal alloys only. No fiberglass, carbon fiber or other similar material may be used in the basic framework of the wings.
- viii. The Front Wing must not extend beyond outside of front tires. The Front Wing may not be cockpit or driver adjustable while the car is stationary or in motion.
- ix. No moving parts allowed on or in foil structure.
- x. The 5" section located at the rear of the front foil must not have a bell/curl arc that is out of proportion with the rest of the front foil. As measured on a 5-inch straight edge, the belly at 2 ½ inches from the rear of the foil may not be deeper than 3/8 inch.

1. There is zero tolerance on this 3/8-inch depth. It is suggested that the wing blue print specify 11/32-inch depth, so that if any deflection or movement of the wing occurs, the depth will not exceed the 3/8-inch specification (This 3/8 inch measurement ensures that the belly/curl arc is gradual).
- xi. The belly/curl arc must span the entire length of the front foil and appear to be a gradual arc with the deepest point, no further back than 12 inches from the leading edge. The belly/curl arc must start at the front foil's leading edge and shall not exceed a depth of 2 inches. Top foil thickness cannot exceed 3.6 inches.
- xii. No rudders or fins on Front Wings.

V. Fuel

- a. Methanol or Ethanol only, NO NITRO or additives allowed.
- b. Fuel Cell must be securely mounted with bladder mandatory. Tank used for Qualifying Heats must remain for all events.

VI. Tires and Wheels

- a. All tires must be manufactured by Hoosier. Any compound allowed.
- b. Tires may not be chemically altered in any way. Tires may be sipped and grooved.
- c. Left Front is the only tire you can run flat.

VII. Shocks

- a. No cockpit adjusters

VIII. Safety

- a. Any driver who exits their car and approaches another driver on a live racetrack may be subject to a fine of \$1,000 from any POWRi sanctioned event. The offending driver will also forfeit their winnings for the night. This also includes family and crew members entering a live racetrack. Under caution, stay in your car. If you are in an unsafe situation, you may exit your car but stay with your car. Dark tracks and dark fire suits make you hard to see. Remember, actions done in anger can have dire consequences. A driver/team who willfully ignores/disobeys an official in a manner which delays the running of the night's program, or places others in danger, will also be subject to a fine of \$1,000 from any POWRi sanctioned event.

- b. All drivers are required to wear SNELL SA2010 or newer approved helmet, a fire retarding uniform (minimum SFI 3.2A/5), protective gloves and arm restraints during competition. Fire retardant underwear is highly recommended.
- c. RACEceiver Radios are mandatory; we reserve the right to penalize drivers that don't run a RACEceiver. No two-way radios will be allowed. Any driver who willfully ignores orders given by officials in such a way as to bring potential harm to another competitor, official, or fan will be expelled for the night.
- d. All cars must be equipped with adequate seat belts, shoulder harness and crotch strap. POWRi requires a five-point hookup with 3-inch width belts recommended. Full Containment Seat is highly recommended.
- e. It is highly recommended, that the Steering Wheel is secured with a pull type, quick release hub or button style, quick disconnect. Use of removable pin style hubs is not recommended at all due to high risk of failure. It is the driver's responsibility to make sure the steering wheel is securely attached before entering the racing surface. Your safety is truly in your own hands.
- f. An onboard fire suppression system is highly recommended on all cars with nozzles positioned as to coat the Engine, Driver, and Fuel Cell.
- g. Approved front axle tether systems are highly recommended. Tether systems must include a "king pin to king pin" tether that will attach to the axle clamp/band. Tether cables should be installed using the manufacturer's provided fasteners. Tether systems of any type must be pre-approved and installed in accordance with the manufacturer's instructions.
- h. If utilized, a tether is required on both left, and right sides of the Front Axle. Tethers must be mounted from the Front Axle, just outside the Radius Rod hookups on both sides of the Front Axle, utilizing the aluminum mounting brackets provided by the manufacturer. Tethers must extend to the second upright of the frame and be attached below the front engine mounts. Tether must be attached with a slipknot around the upright. Crews cannot alter the intentions of the Axle Tethers.
- i. If a car needs to be fired in the Pits, the person in the car must be in full safety gear with seat belts properly attached.
- j. No flammable liquids allowed in the cooling systems.