



**POWRi 410 Wing Outlaw  
Series Specifications**

# Index

<b>Axles</b>	<b>2</b>
<b>Brakes</b>	<b>2</b>
<b>Bumpers and Nerf Bars</b>	<b>2</b>
<b>Car Appearance</b>	<b>2</b>
<b>Car Construction</b>	<b>2</b>
<b>Car Size Limits</b>	<b>2</b>
<b>Chassis Protrusions</b>	<b>3</b>
<b>Design and Construction</b>	<b>3</b>
<b>Engines</b>	<b>3</b>
<b>Exhaust</b>	<b>3</b>
<b>Firewall</b>	<b>3</b>
<b>Fuel System</b>	<b>3</b>
<b>Ignition</b>	<b>4</b>
<b>Inspection</b>	<b>4</b>
<b>Miscellaneous</b>	<b>4</b>
<b>Mufflers</b>	<b>4</b>
<b>Rear Bumpers</b>	<b>4</b>
<b>Roll Cage</b>	<b>4</b>
<b>Seats</b>	<b>4</b>
<b>Seat Belts</b>	<b>4</b>
<b>Starters/Clutch</b>	<b>4</b>
<b>Tires and Wheels</b>	<b>5</b>
<b>Tire Prep</b>	<b>5</b>
<b>Water/Oil Coolers</b>	<b>5</b>
<b>Weight</b>	<b>6</b>
<b>Wings</b>	<b>6</b>

## **1. Axles**

- a. Front axles constructed of aluminum or titanium will not be permitted.
  - i. Axle Tethers are Mandatory
  - ii. Kingpin to Kingpin Tethers is Mandatory
  - iii. Drag Link Tether is Mandatory
  - iv. Cockpit adjusters will be allowed
  - v. Steering Mechanism
    1. The steering mechanism should be in accordance with sound engineering principles and subject to inspection. A quick release type steering wheel is required. No pin type quick release or plastic quick release will be allowed.

## **2. Brakes**

- a. Cars must be equipped with suitable brakes.

## **3. Bumpers and Nerf Bars**

- a. Cars must be equipped with adequate bumpers that are securely fastened to the structural components of the car. No titanium rear bumpers are allowed.

## **4. Car Appearance**

- a. All cars must pass a technical inspection by the Director of Competition before being allowed to race.
- b. All cars must present a neat appearance to the Promoter and the crowd.
- c. Pit crews must be in a presentable condition.
- d. Each car will be required to have a number prominently painted on the top wing and each side of the tail. Duplicate numbers at any track may require the alteration of the number by adding a number or letter to the car.
- e. After a number is assigned to a particular car and owner, the number will remain with the owner until the end of the racing season.

## **5. Car Construction**

- a. All cars must be of the open wheel, open cockpit style, and must appear as a sprint car. No aluminum or titanium frames.
- b. The engine must be covered with a cowl or hood and secured in place. The hood or cowl need not enclose the sides of the engine.
- c. The car must have a floorboard or under pan (extend from firewall to the front of the seat) that provides adequate protection to the driver.
- d. Radiator catch tanks and under pan diapers may be required if warranted by track conditions.
- e. The cockpit opening must be located directly behind the engine compartment.
- f. The use of carbon fiber or other composite material as a structural chassis component, torque tube, or as a suspension component is not allowed.
- g. No titanium front and rear axles, steering and torsion arms, bumpers, or nerf bars will be allowed.

## **6. Car Size Limits**

- a. The wheelbase must be at least 83 inches, but not more than 90 inches.

## **7. Chassis Protrusions**

- a. Sharp chassis protrusions (grease fittings, cotter keys, etc.) must not be located in close proximity to the tires.

## **8. Design and Construction**

- a. All phases of design and construction of any car are subject to the approval of the Technical Committee. The Stewards and Technical Committee may exclude any car, design, or construction which they have deemed dangerous.

## **9. Engines**

- a. 410 Cubic inch limit
- b. No double overhead cam engines
- c. No titanium cranks or rods
- d. No super or turbo chargers
- e. One spark plug per cylinder
- f. Two valves per cylinder
- g. Complete engines and/or major components must be available in a reasonably sufficient supply to all competitors at comparative prices.
- h. Performance Open Wheel Racing, Inc. (POWRi). Reserves the right to disallow any engine for competition, which in its judgment does not meet the spirit and intent of competitive racing, regarding cost and/or performance. Any engines not covered by the preceding specifications must be submitted for approval prior to entering the competition.
- i. Unapproved engines may be run under observation prior to amending the rulebook with the approval of the Director of Competition.

## **10. Exhaust**

- a. Exhaust systems must be designed to create a minimum fire hazard and a minimum hazard to other competitors. Cars having exhaust pipes passing the cockpit near the Driver must have raised metal pipes adjacent to the cockpit to afford protection to the Drivers and Mechanics.

## **11. Firewall**

- a. An effective firewall of metal or approved fire-retardant material must be installed between the engine compartment and the cockpit. It must be as leak proof as possible.

## **12. Fuel System**

- a. Fuel tanks must be constructed and supported in a manner that will ensure every possible precaution has been taken to avoid rupture or breakage.
- b. Fuel tanks should not be altered by cutting out the bottom of lower tanks. Carbon fiber fuel tanks will not be allowed.
- c. Each car should be equipped with an approved bladder fuel tank.
- d. Fuel tanks must be within the body's contour.
- e. A flush-type cap or a device approved by the Technical Committee is required on all exposed fuel caps.
- f. The fuel tank must have a check valve.
- g. Fuel systems must be equipped with a shut-off device located within easy reach of the Driver.
- h. Fuel is restricted to methanol or ethanol.

- i. All fuels are subject to testing at any time and any deviation or violation of these specifications will result in immediate disqualification.

**13. Ignition**

- a. Kill switch must work and be within easy reach to the Driver.

**14. Inspection**

- a. An inspection shall be performed by a member of the POWRi Technical Committee at any event during the season.

**15. Miscellaneous**

- a. The use of in-car radio transmitting devices is prohibited.
- b. Only one-way communication from POWRi Race Control will be allowed and is mandatory.
  - i. Channel #1 Frequency: 464.5500
- c. The use of electronic logic processor to control any function of the race car is prohibited. (Note: This rule does not include electronic ignition and/or electronic tachometers).
- d. MyChron data loggers have been deemed legal for gathering continuous data for the purpose of engine tuning performance but are limited to RPM, Pressure, Temperature, Voltage, O2 Sensors, and GPS. MyChron is one way communication only.
- e. No Can ports, wheel/axle speed sensors or any other logic processing sensors will be allowed.
- f. All data loggers are subject to inspection by the race director. Any other data collection system can utilize only one way communication and must have PRIOR approval by the race director. No switching devices are allowed in the cockpit area for the use of changing ECU programming and will be subject to inspection.

**16. Mufflers**

- a. No carbon fiber mufflers will be allowed. Mufflers will only be mandatory at tracks that require them. Be prepared.

**17. Rear Bumpers**

- a. The car must be equipped with a rear bumper, which is securely fastened to the structural components of the car.

**18. Roll Cage**

- a. All cars must be equipped with a roll cage that cannot encroach upon the imaginary cylinder extending upward from the cockpit opening. The roll cage must be secured and attached to a strong component of the car and adequately braced fore and aft to secure in an upright position.

**19. Seats**

- a. Approved full-containment seats are mandatory with a minimum of 4 mounts.

**20. Seat Belts**

- a. The use of an approved seat belt with a quick opening clasp is mandatory. Both the fastening design and condition of the belt are subject to inspection by the Technical Committee. Seat belts in use shall not exceed 2 years of age. Each belt must be the standard 3" minimum and include a submarine belt of suitable size.

**21. Starters / Clutch**

- a. Clutch must be rendered inoperative but can be left on the car.

## **22. Tires and Wheels**

- a. Hoosier tires are required on all four corners.
  - i. Front
    - 1. 85/8.0-15 D12, D15, D20
  - ii. Left Rear
    - 1. D12A, RD12, H12, H15
  - iii. Right Rear
    - 1. D15A and Medium, H15, H20 Medium
- b. Wheels
  - i. Maximum right rear width of 18 inches
  - ii. Maximum left rear width of 15 inches
  - iii. Wheel Covers
    - 1. Recommended that wheel covers have a minimum of five (5) mounting points
      - a. Wheel cover with five (5) mounting points may still use steel dzus fasteners
      - b. Wheel covers with three (3) mounting points recommended to use minimum 5/16" flanged steel bolt and an approved fastening (nut assembly system) system
  - iv. All balancing lugs must be securely fastened.
  - v. Rim locks are recommended only if the legal wheel width is maintained.
  - vi. Bead locks are legal.

## **23. Tire Prep**

- a. The altering of any tire compound, by any means will not be permitted. Chemical alteration of the tread carcass and/or tread compound, such as tire 'soaking' and/or the introduction of tread 'softener' and/or physical defacement (removal, altering and/or covering) of tire sidewall markings in any manner will not be permitted. If any competitor is found to have altered their tires any penalty deemed appropriate by POWRi Series Officials may be issued.
- b. Any tire may be inspected and/or analyzed for alteration at any time. This will consist of a process as determined by the independent laboratory that performs the analysis. The analysis process will require a sample shipment of the tire to the selected laboratory.
- c. Additional race event(s) may be completed before a determination is made. If a penalty is issued, the event(s) that fell into the analysis time period while the tire(s) were being analyzed will be considered as part of the penalty time period.
- d. Money won in an event may be held until the final determination is made by the independent laboratory.

## **24. Water / Oil Coolers**

- a. No water or oil coolers are to be placed above or beside the cockpit opening.

## **25. Weight**

- a. Cars must weigh a minimum of 1425 pounds including the driver, water, oil, fuel, and fire suppression kit. Cars may be weighed prior to and/or following any event.

## **26. Wings**

- a. Top Wing
  - i. Flat wing must not exceed 25 square feet
  - ii. Wicker bill may not exceed 2 inches
  - iii. No “dished” wings
- b. Front Wing
  - i. The center foil will have a maximum size of 6 square feet with a maximum width of 36 inches and a maximum length of 24 inches.