



Hoosier
Official Tire

2009

SPRINT CAR

DIVISION

Rules and

Specifications



NCRA SPRINT CAR SPECIFICATIONS 2009

1. BODIES:

Cars must resemble a sprint car. Complete hood, fuel tank, etc. No non-wing cars. Maximum 25 square foot top wing. 2 x 3 foot nose wing OK.

No turn-outs or any other air foils allowed. Right side window opening must be 21" horizontally and 12" vertically and with no other opening less than 10".

2. CHASSIS:

Any sprint chassis is allowed, but it must pass any test prescribed by the safety inspectors. 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. Minimum wheel-base of 83", maximum wheel-base of 90". No offset motors will be allowed. Engine must be directly in front of driver. Driver must straddle drive-line. No roadster type chassis allowed. Only Sprint appearing type bodies, tails and hood will be allowed.

3. DRIVELINES:

All drivelines must be broken in the coupler or rear slider. Torque arm drivelines may not be used. All drivelines must be enclosed and contain no more than one U-joint and that one must be at the front of the driveline.

4. SUSPENSION:

All suspension systems must be mechanical with no form of electrical assistance. No independent rear suspensions. Front axles must be steel only.

5. WHEEL BASE:

The minimum wheel base shall be 83" measured from the center of the front hub to the center of the rear hub on the shortest side measured. Maximum wheel base shall be 90".

6. TOP WING:

- A. Center Foil maximum size of 25 square feet with a maximum width of 60 inches.
- B. Center Foil shall be fully sheathed in aluminum. Vent holes are strictly prohibited.
- C. No wicker bills or Gurney lips permitted on Center Foil.
- D. Other than the slider mechanism, no moving parts allowed on or in foil structure.
- E. 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. 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. 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. 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 1/2 inch specification. (This 1/2 inch measurement ensures that the belly/curl arc is gradual.)
- F. The belly/curl arc must start at the radius of the Center Foil's leading edge and shall not exceed a depth of 2 1/2 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.

G. 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.

FRONT WING:

- A. Center Foil maximum size of 6 square feet with a maximum width of 36 inches.
- B. Center Foil shall be fully sheathed in aluminum. No vent holes allowed.
- C. No wicker bills or Gurney lips permitted on Center Foil.
- D. Maximum distance from the Center Foil front edge to the front edge of the front axle may not exceed 20 inches.
- E. The Center Foil 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.
- F. Center Foil must be one piece. No split or bi-wings will be allowed.
- G. 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 wing
- H. 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.
- I. No moving parts allowed on or in foil structure.
- J. 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 1 1/2 inches from the rear of the foil may not be deeper than 3/8 inch. 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).
- K. The belly/curl arc must span the entire length of the front foil and appear to be a gradual arc with the deepest point not further back than 12 inches from the leading edge. The bell/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.
- L. No rudders or fins on Front Wing.

SIDE BOARD PANELS

- A. Side panels may not be supported by braces whose section is not horizontal. All braces or supports shall be oriented thin edge to face the air stream. Only rectangular, round or oval metal braces not exceeding 1 inch in width may be used.
- B. No aero section side panel brace material allowed.
- C. No brace or support shall resemble a wicker bill or a split wing.

FRONT:

- D. Front side boards maximum 12 inches tall and 26 inches long with no more than one inch overhang from the center foil front edge to the side board front edge.
- E. Side boards may have front, back, top and bottom turnouts of no more than 1/2 inch.

TOP

- F. Top side boards maximum size 72 inches long and 30 inches tall.
- G. Panels must be of one-piece construction.
- H. Panels must be fabricated flat so as to have no turnouts or flaps made of more than 2 inches of material on the front or rear of panel and no more than 1 1/4 inches on the top or bottom.

MINIMUM NCRA SPRINT CAR PURSE

B. Feature

All non-transfer cars: \$100.00

A. Feature:

1. 2,000
2. 1,500
3. 1,000
4. 700
5. 600
6. 500
7. 500
8. 500
9. 500
10. 500
11. 400
12. 400
13. 400
14. 400
15. 400
16. 350
17. 350
18. 350
19. 350
20. 350

All additional cars taking the initial green flag in the "A" Feature will receive \$300.

7. WHEELS:

Maximum right rear 18". Maximum left rear 15". Maximum front 10".

Insert type from rubber wheel covers or covers that are securely screwed to wheels will be the only type wheel covers acceptable. No carbon fiber wheels. Beadlocks OK.

8. FUEL & FUEL CELL:

Methanol only. 10% Ethanol okay. No additives, except NCRA approved top oil which must pass NCRA fuel test. No nitrous oxide, no turbo chargers or blowers. Fuel bladders are mandatory. No smaller than 24 gallon fuel tanks allowed at any time (27 gallon or larger fuel tank recommended). A fuel shut-off valve shall be required within easy reach of the driver while sitting in the car.

9. TIRES:

The right rear must be Hoosier 105-16-15 #38221 Med.

(Hard)38231 105-18-15

Hoosier left rear 88/96/15 Medium only. Front tires optional. Recommended all Hoosiers. Tires may be deromitored no more than 2 points. Must check within 2 points of manufacturer.

10. MUFFLERS:

All cars will be equipped with headers that merge into a collector and point to the rear or to the side of the car.

11. a. ENGINE: (NCRA)

Any automotive engine originally produced by an American automobile manufacturer.

Make optional. Cast iron blocks only.

a. Maximum displacement to include clearance and wear is:

Chevrolet: 365 cubic inches. Max. stroke: 3.500

Chrysler: 368 cubic inches. Stock stroke.

Ford & All Others: 365 cubic inches. Stock stroke.

b. Head Rule: Any 23 degree cast iron cylinder head. Heads may be surfaced or angle milled. Valves and spark plug holes must remain in stock location. No titanium valves allowed. No raised runner heads or manifolds.

c) No titanium engine parts allowed except valve spring retainers.

(d) After market steel crankshafts and rods may be used.

(e) Type of camshaft is optional. No overhead camshafts.

(f) Any kind of ignition mechanically driven in stock position.

(g) The use of super or turbo charges, nitrous oxide and water injection will not be allowed.

(h) Oiling system: Type optional.

11. b ENGINE (ASCS)

- a. 360 cubic inches. (plus 1% maximum displacement) (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 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. 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.
- f. Spec. Heads: Brodix heads part # 27-211, # 27223, and # 27-222 with ASCS stamp may not have any performance-enhancing alterations in any way. Intake opening no larger than original opening, the only exception being inlet opening may be ground or polished 3/4 inches or no further into port than the closest edge of the closest letter of the ASCS logo. During the polishing the left side of the letter "A" is sometimes inadvertently brushed with polish wheel. This is permissible as long as letter is still intact. During polishing inlet port sometimes polish marks may go slightly further than the 3/4 inch. Intake port at no time may exceed 215 cubic centimeters.
Intake port polishing will be allowed no more than 1 1/2 inches below the bottom of the original seat ring on the back side of the bowl area and no more than 1 inch on the short side. Polishing will be allowed in the combustion chamber area to avoid hot spot chaffing. Polishing will be allowed in exhaust ports as long as the original "ASCS" logo is not affected or port shape is not altered substantially.

Any internally repaired ASCS spec head must be re-certified by Brodix

All spec heads must remain within 1 degree of the original manufacturing. Penalty for altered spec head will be subject to suspension for one calendar year. Forfeit all points and moneys won during the race which the infraction was found and subject to a \$500. Intake port at no time may exceed 215 cubic centimeters.

- g. All oil pans must have inspection plug. Pans without plug will be subject to pan removal at anytime.
- h. No turban driven, turbo blower will be allowed.
- i. Only two valves and one spark plug per cylinder allowed. No big blocks.
- j. No computer operated or controlled parts such as fuel injections, fuel systems, chassis adjusting systems with the exception of wing valves.
- k. No offset motors will be allowed. Engine must be directly in front of driver and driver must straddle drive-line.

12. WEIGHT:

Minimum weight 1475 with driver.

All bolt on weight must be located below seat line and between front and rear axel.

13. No Shocks adjustable from inside the cockpit.

14. BOLTS: No Hollow or drilled out bolts anywhere.

15. INJECTORS: No down nozzle. One nozzle per cylinder. Must be round hole standard type. 2 3/16 in. maximum inside diameter of injector stack.

No timed fuel injectors will be allowed. Electronic fuel injection will not be allowed. Only one injector nozzle and one injector line per cylinder. Injection unit shall have one shaft operated butterfly per cylinder. The immediate area of the butterfly must be rounded. No slide or barrel type injectors will be allowed.