



## 2021 Lucas Oil POWRi 305 Winged Sprint Car Rules

THE RULES AND/OR REGULATIONS SET FORTH HEREIN ARE DESIGNED TO PROVIDE FOR THE ORDERLY CONDUCT OF RACING EVENTS AND TO ESTABLISH MINIMUM ACCEPTABLE REQUIREMENTS FOR SUCH EVENTS. THESE RULES SHALL GOVERN THE CONDITION OF SPEEDWAY EVENTS AND, BY PARTICIPATING IN THESE EVENTS, ALL RACEWAY COMPETITORS ARE DEEMED TO HAVE COMPLIED WITH THESE RULES. NO EXPRESS OR IMPLIED WARRANTY OF SAFETY SHALL RESULT FROM PUBLICATION OF, OR COMPLIANCE WITH THESE RULES AND REGULATIONS. THEY ARE INTENDED AS A GUIDE FOR THE CONDUCT OF THE SPORT AND IN NO WAY ARE A GUARANTEE AGAINST INJURY OR DEATH TO PARTICIPANTS, SPECTATORS OR OTHERS.

### GENERAL INFO

1. All drivers must purchase a license. The cost of a license fee is \$150 and makes the licensed driver eligible for points funds.
2. We will draw for heats, then the top 8 in passing points will redraw top 8 positions on first night out. After points are established the top 8 in heat passing points will be inverted by points average. In the case of a new car coming out, they will draw for heat, and if they make the top 8, they will take the 8th spot. If you miss any races, you don't lose your points average. Big or special shows will start by draw.
3. Failure to pack track when asked will result in starting at tail all night unless good reason can be shown as to why you didn't participate in packing.
4. Track procedures for main events will be used. Delaware restarts in mains, driver swaps, etc., must be reported before a race starts and a driver changing cars will go to back for lineup.
5. A-Main points awarded as follows: 1. 150, 2. 142, 3. 135, 4. 130, 5. 125, 6. 122, 7. 119, 8. 116, 9. 113, 10. 110, 11. 108, 12. 106, 13. 104, 14. 102, 15. 100, 16. 98, 17. 96, 18. 94, 19. 92, 20. 90. Drivers that take a competitive green flag but fail to qualify for the "A" Main will be awarded 65 points. Drivers that try to compete but fail to take a competitive green flag in a heat or feature race will be awarded 50 points.

### Passing Points System

	Start												
	1	2	3	4	5	6	7	8	9	10	11	12	
1	100.0	105.0	110.0	115.0	120.0	125.0	130.0	135.0	140.0	145.0	150.0	155.0	
2	91.5	93.0	98.0	103.0	108.0	113.0	118.0	123.0	128.0	133.0	138.0	143.0	
3	83.0	84.5	86.0	91.0	96.0	101.0	106.0	111.0	116.0	121.0	126.0	131.0	
4	74.5	76.0	77.5	79.0	84.0	89.0	94.0	99.0	104.0	109.0	114.0	119.0	
Finish	5	66.0	67.5	69.0	70.5	72.0	77.0	82.0	87.0	92.0	97.0	102.0	107.0
6	57.5	59.0	60.5	62.0	63.5	65.0	70.0	75.0	80.0	85.0	90.0	95.0	
7	49.0	50.5	52.0	53.5	55.0	56.5	58.0	63.0	68.0	73.0	78.0	83.0	
8	40.5	42.0	43.5	45.0	46.5	48.0	49.5	51.0	56.0	61.0	66.0	71.0	
9	32.0	33.5	35.0	36.5	38.0	39.5	41.0	42.5	44.0	49.0	54.0	59.0	
10	23.5	25.0	26.5	28.0	29.5	31.0	32.5	34.0	35.5	37.0	42.0	47.0	
11	15.0	16.5	18.0	19.5	21.0	22.5	24.0	25.5	27.0	28.5	30.0	35.0	
12	6.5	8.0	9.5	11.0	12.5	14.0	15.5	17.0	18.5	20.0	21.5	23.0	

## ENGINES

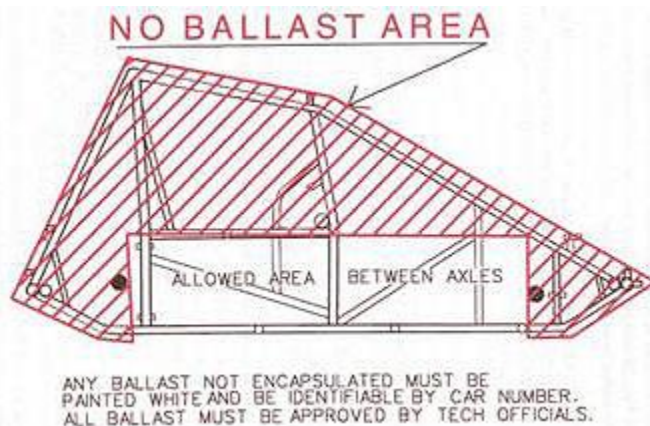
### **All engines must be sealed by POWRi and/or RaceSaver only. No exceptions.**

1. Blocks must be GM 305 V8s with approved casting numbers in place. 361979 - 460776 - 460777 - 460778 - 14010201 -14010202 - 14010203 - 14088551 - 14016381 - 355909. A specific Dart Machinery block, purpose built and approved for RaceSaver competition is the "Little M" "B" block: Part #31151411. This block is available in both standard and lightened versions.
2. No ballast weight can be added to a car using a lightened block.
3. Maximum 315.9 cubic inches (no tolerance). Maximum stroke 3.480+- .020; Maximum bore 3.801. If=020, maximum bore 3.790; Bore: Plain cast iron. Sleeves allowed for repair only.
4. Flat top pistons with valve reliefs.
5. Crank: Cast iron or steel, minimum weight 48 pounds (1% tolerance). Minimum main bearing diameter 2.450 - .030. No weight added to crank except to balance metal, which must be welded in place. No lightweight crankshafts. No scalloping or undercutting counterweights.
6. 5.7" steel rods, minimum rod journal diameter 2.100 - .030.
7. Cam Drive: Chain only. No gear or belt drives. No device to vary running cam timing.
8. Plain hub or SFI-approved damper. Stock location water pump.
9. Flat tappet cam, stock diameter tappets (.842) No roller, hydraulic, mushroom or radius tappets.
10. Cam: original material, configuration and firing order (18436572) No billet or hardened camshafts.
11. Valve Spring: Straight wound with flat damper. @ .500 lift 330-355#. Install height 1.660-1.850, dia. 1.262 Plus or minus .005. Wire Diameter .193 + or - .002, 5 full coils. Aftermarket: Inst. Ht. 1.700-1.900. Dia. 1.268 + or - .005. Wire dia. .191 + or - .002. Free ht. 2.165 max. 1.945 min. 5½ full coils.
12. Wet sump, internal pump only. No crankcase vacuum systems.
13. Roller: Cantered on, and retained by, the 3/8" rocker studs. No shaft systems.
14. Absolute maximum valve lift: .510" intake - .535" exhaust (1% tolerance) @ zero lash @ valve retainer.
15. No stud girdles, rev kits or other valve train stabilizers. Tappet access for inspection required.
16. No repositioning, boring or bushing of cam or lifter bores. Maximum cam diameter 1.869" + .002".
17. Valve must retain original size and length. Stem 11/32". Intake 1.94, No stem undercut. Exhaust 1.60, Original stem undercut to .315. No titanium valves.
18. Ferrous material only: Valves, seats, retainers, keepers, push rods, springs, tappets, cam crank, rods, wrist pins, fasteners, main caps. No Titanium, Inconel, ceramics, DLC, Nikasil or similar materials and processes in engine. Main bearings and rod bearings coating permitted.
19. Any ignition system. Constant flow fuel injection only.
20. ASCS 305 Spec head: Absolutely no changes. No machining, milling or resurfacing. Absolutely must remain stock. Combustion chamber 62cc or larger, intake runner 170cc or smaller (this is the same as the RaceSaver head. Both ASCS 305 and the RaceSaver heads are the same.
21. If running the RaceSaver spec head: Absolutely no changes. No machining, milling, resurfacing, grinding, polishing, welding, acid or caustic work, shot peening, glass beading, coating or any other process that will alter the machined surfaces or the natural sand cast finish. Must retain all original dimensions and configurations including valves, springs, retainers, stems and guides. The only work allowed is reseating the valves. No top cuts that extend into the aluminum of the chamber. No under-the-seat relief cuts. No work that enlarges the as-delivered throat size, 1.810 int. and 1.345 exhaust (+ or - 0.10). No bowl changes. Every dimension of these heads has a gauge dimension that must be met for them to be certified. Change any one of them and you will be disqualified. The stamped identification marks may not be altered.
22. Compression Ratio: 10.25 to 1 absolute maximum. Compression ratio will be checked with whistle or by pouring the assembled cylinder. Absolute minimum assembled cylinder volume: 70 cc. Heads may not be milled. The only exception is pre-approved milling to repair surface. All repairs must be pre-approved. Contact Jimmy Ray at (575) 644-3928 before attempting repairs. A repair authorization number will be issued. After repair, heads must be re-certified and marked accordingly. Original serial numbers and certification marks must be intact. They may not be altered or obscured. Any and all repairs must be pre-approved and heads re-certified. If any spec head is found to be modified, it must be replaced with a certified spec head.

## CHASSIS

1. Weight Rule: Weight rule is 1,500 pounds, including the driver, at the conclusion of the race. 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. 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 (see illustration).



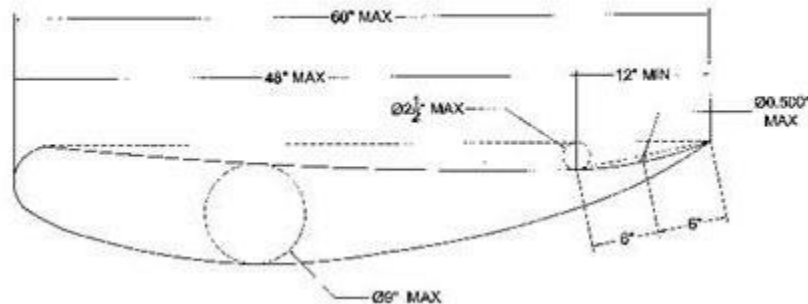
2. Any sprint car chassis is allowed, but it must pass any test prescribed by the safety inspectors. The roll cage must be of a four-post design. No dirt champ cars. No elliptical (oval-shaped) tubing used on or as part of the main frame structure. Minimum wheelbase of 83" and maximum wheelbase of 90". No pieces may be added to the frame to resemble, imitate or be specifically designed to deflect, trap or form a wind break of any nature, except those used to cool and/or protect the motor and braking system. No roadster-type chassis allowed. Only sprint-car-appearing type bodies, tails and hood will be allowed.
3. Fuel cell securely mounted with bladder mandatory. Tank used for qualifying heats must remain for all events.
4. No flammable liquids allowed in cooling systems. No fuel additives.
5. Bumpers and nerf bars are mandatory and must be securely mounted. No aluminum frames, draglink, rear bumpers or nerf bars. Aluminum front bumpers are allowed. Nerf bars must not be outside of tires. All cars must be equipped with a draglink strap. The strap must be of the same, or similar, construction as required five-point safety harnesses.
6. All drive lines must be broken in the coupler or rear slider, fully enclosed and contain 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.
7. Mufflers are mandatory. Loss of muffler will result in disqualification. See muffler rule below at end.
8. Headers must be a minimum of .045.
9. Steel, aluminum or titanium brake rotors only.
10. RACEceiver radios are mandatory. 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 and/or fan will be expelled for the night.
11. 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 23.5" inches.
12. No hollow, tubular or drilled out bolts allowed.
13. The right side opening must be a minimum of 10" vertical at any point and 21" horizontal.
14. The right side panel (armguard) will be permitted to extend a maximum of 7" as measured from the outside edge of the middle frame rail and must remain above the middle frame rail.

## WINGS

1. Center foil shall be fully sheathed in aluminum. Vent holes are strictly prohibited.
2. Center foil must be one piece. No split or bi-wings will be allowed.
3. 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.
- 4. Top Wing:**
  - 4.1 Center foil maximum size of 25 square feet with a maximum width of 60" with a tolerance of +/- one

- (1) degree.
- 4.2 No wicker bills or Gurney lips permitted on center foil unless center foil is totally flat and then a wicker bill **up to 2"** is allowed.
  - 4.3 Other than the slider mechanism, no moving parts allowed on and/or in foil structure.
  - 4.4 The 12" 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" from the leading edge. As measured on a 12" straight edge, the belly at 6" from the rear of the foil may not be deeper than one-half inch (no tolerance). It is suggested that the wing blueprint specify 15/32-inch depth, so that if any deflection or movement of the wing occurs, the depth will not exceed the one-half inch specification. This one-half inch measurement ensures that the belly/curl arc is gradual.
  - 4.5 The belly/curl arc must start at the radius of the center foil's leading edge and shall not exceed a depth of 2.5". Center foil thickness cannot exceed 9". Center foil top surface from side to side must remain flat. Top wing must not extend beyond outside of rear tires.
  - 4.6 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" at the front and 3" at the rear. Nowhere shall the foil exceed 3" in height. The top wing can be cockpit/driver adjustable.

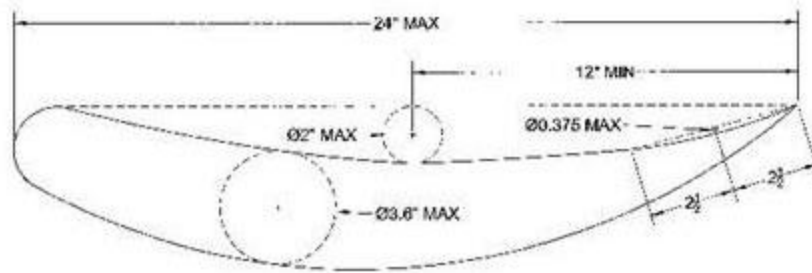
### Top Wing Diagram/Specifications



### 5. Nose Wing:

- 5.1 Center foil maximum size of 6 square feet with a maximum width of 36" with a tolerance of +/- one (1) degree.
- 5.2 Wicker bills up to 1" are allowed on nose wing, flat or dished.
- 5.3 Maximum distance from the center foil front edge to the front edge of the front axle may not exceed 20".
- 5.4 The center foil front edge must remain at least 1" behind the front edge of the front bumper. Center foil top surface from side to side must remain flat.
- 5.5 The nose wing must not extend beyond outside of front tires. The front wing may not be cockpit/driver adjustable while the car is stationary or in motion.
- 5.6 No moving parts allowed on and/or in foil structure.
- 5.7 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" straight edge, the belly at 2.5" inches from the rear of the foil may not be deeper than 3/8 inch (no tolerance). It is suggested that the nose wing blueprint specify 11/32-inch depth, so that if any deflection or movement of the nose 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.
- 5.8 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" 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". Top foil thickness cannot exceed 3.6".
- 5.9 No rudders and/or fins on front wings.

## Nose Wing Diagram/Specifications



### 6. Sideboard Panels:

- 6.1 All sideboard panels must be square to center foil with a tolerance of +/- eight (8) degrees.
- 6.2 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" width may be used.
- 6.3 No aero section side panel brace material allowed.
- 6.4 No brace or support shall resemble a wicker bill or split wing.
- 6.5 Top wing sideboards maximum size of 72" long and 30" tall. Panels must be of one-piece construction. Panels must be fabricated flat to have no turnouts or flaps made of more than 2" of material on the front or rear of panel and no more than 1.25" inches on the top or bottom.
- 6.6 Nose wing side boards maximum size of 12" tall and 26" long with no more than 1" overhang from the center foil front edge to the sideboard front edge. Sideboards may have front, back, top and bottom turnouts of no more than one-half inch.

## FUEL

1. Methanol or Ethanol only. No nitro or additives allowed.
2. Fuel subject to be checked anytime by officials. Fuel samples may be taken for analysis and prize money may be withheld until results are known.
3. Penalty for fuel infraction will result in forfeiture of all points and money won during event detected, and a fine of up to \$1,000 for first infraction. Second infraction subject to suspension of up to one (1) calendar year.

## TIRES & WHEELS

1. Right Rear: Hoosier 105x16.0-15 Medium or 105x18.0-15 Hard. Absolutely no tire preps or tire softeners allowed. HOOSIER HR15 ARE OPTIONAL AND ALLOWED
2. Beadlocks recommended on all wheels.
3. Maximum right wheel width is 18". Maximum left rear wheel width is 15".
4. Left front is the only tire you can run flat.
5. The left rear tire must be a Hoosier tire.
6. Electronic bleeders are allowed (Swindell bleeders).

## SAFETY

1. All drivers are required to wear a SNELL-approved helmet, fire-retardant uniform, protective gloves and arm restraints during competition.
2. All cars must be equipped with adequate seat belts, shoulder harness and crotch strap. Five-point hookup with 3" belts is strongly recommended.
3. It is strongly recommended that all sprint cars have front axle tethers with the following part numbers for complete kits from ButlerBuilt: #BBP 4922-225 (2 1/4" axle diameter); #BBP 4922-238 (2 3/8" axle diameter); #BBP 4922-250 (2 1/2" axle diameter). Tethers are mandatory.
4. 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 ButlerBuilt.
5. 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.

## PROTEST

1. Protest may be made for \$1,000 to have another driver's engine inspected. If legal, driver protested keeps money. If illegal, money is returned to the protester. In either case, \$150 will be paid to tech inspector completing the inspection so only \$850 goes to the recipient. The Track has the right to a complete engine tear down after 3 main event wins.

**These mufflers must be run on all divisions except Legends and Claimers. Valid part numbers: 112530, 112535, 113035 and 14272735-78.**

# Sanction Approved Mufflers

Temporary non-high temperature paint

LENGTH	WEIGHT	INLET DIA.	OUTLET DIA.	BODY DIA.	SANCTION APPROVED	PART #	PRICE
11"	2.35#	3"	3"	3 1/2"	-----	112530	38.95
11"	2.84#	3 1/2"	3 1/2"	4 3/8"	-----	112535	38.95
11"	2.90#	3 1/2"	3 1/2"	4 3/8"	-----	113035	38.95
14"	4#	3 1/2"	3 1/2"	4 1/2"	ASCS - W.O.O	14272735-78	69.95



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