



APPENDIX C

2017 National/CRA Dirt Sprint Car Division Technical Specifications

301 Design and Construction

All phases of design and construction are subject to the approval of the Technical Director. The Chief Steward and the Technical Director may exclude any car, design or construction, which they deem unsafe or not meeting the specifications, the spirit and/or the intentions of the rules contained herein.

Any component used in the construction or assembly of the chassis and/or accessories, if constructed of carbon fiber material, must be approved for use by the USAC Technical Director prior to entering a competition.

302 Dimensions and Weight

- A. The wheelbase must be at least 83 inches and no more than 90 inches. Centerline rear axle to front king pin center line
- B. The overall length will be limited to a maximum of 14 feet.
- C. Outside of the right rear wheel, at the outside bead seat cannot exceed 46 inches from the centerline of the rear axle center section.
- D. The right front tire cannot be farther out than the right rear tire when the right rear wheel is set at maximum offset. (as measured straight line along outside RR to outside RF) Overall width is not limited.
- E. All cars must weigh a minimum of 1,325 lbs, including driver.
- F. Additional bolt-on weight must be mounted and fastened to the frame and/or chassis in a secure manner. Weight must be mounted in an area between bottom frame rails, front and rear axles and no higher than mid rails at cockpit. All weight must be mounted within confines of frame. No weight may be added during yellow or red flag.

303 Car Construction and Body

- A. All cars shall be rear drive only.
- B. Only torque tube type drivelines, utilizing only one u-joint, will be allowed. The torque tube must be bolted directly to the face of the rear axle center section without any interruptions; the torque tube must be one solid piece. All cars must be equipped with a drive shaft restraining hoop or strap securely attached to the chassis, minimum hoop material is 1 inch x.065 steel tubing. *A driveline containment system utilizing steel shield bolted to engine plate or containment blanket to cover torque ball and u-joint is highly recommended.*
- C. Radius rods may not be attached within the confines of the cockpit.
- D. The driver shall be seated directly behind the engine; centerline of top of seat at the drivers helmet can be no more than one (1") inch off centerline of roll cage.
- E. Only standard type Sprint Car bodies, tail tanks and hoods will be permitted.
- F. The front part of the body, known as the nose assembly, shall not be wider than the parallel lines of the body and may not exceed the width of the frame. The nose assembly may not extend forward beyond the confines of the front bumper. (Section 306 for bumper rule)
- G. Any item added to resemble imitate and/or specifically designed to deflect, trap and/or form a pattern for air to travel in a directed manner, except for those used to cool and/or protect engine and brake system will not be permitted.
- H. All cars required to run a full sprint-type hood. Side panels covering the sides of the engine and/or vertical spill plates may not extend vertically more than 1 (one) inch higher than any part of the hood covering the engine bay behind the front engine mount.
- I. Radius rod protectors will be permitted. Vertical opening ten (10) inches in height by twenty-four (24) inches long and extend no more than four (4) inches from outside edge of lower frame rail.
- J. Right side cockpit panels must have a minimum opening of one hundred (100) Square inches. Panels that restrict drivers vision at the discretion of USAC officials will not be permitted.
- K. Left side cockpit panels may be thirty-four (34) inches high as measured from the bottom of main frame tubes at the engine plate and projected rearward twenty-one (21) inches.



- L. An effective firewall must be installed between the engine compartment and the cockpit. It must be as leak proof as practical.
- M. The motor plate may not be made from carbon fiber, or any type composite materials.
- N. All paneling must not extend past edge of frame rails more than thickness of panel material.
- O. One (1) inch turnout allowed on all body and sail panel edges, except sun visor.
- P. Sun visors must not extend forward more than Nine (9) inches from the front of the forward most edge of the roll cage/ halo tube, and may not be wider than the width of the roll cage; sun visors must be flat on both sides. *For fan recognition, all teams are encouraged to place the drivers' name on their visors in large letters.*
- Q. Airfoils, wings, spoilers, or other aerodynamic appendages will not be permitted. The Chief Steward or the Technical Director may have any panel or part removed which in their opinion is not within the spirit or intent of this rule.
- R. Water radiators, oil coolers, battery and any remote engine accessory, must be within the confines of the main frame tubes located between front axle and rear engine mounting plate.
- S. Panels attached to nerf bars will not be permitted.
- T. Rear view mirrors are not permitted.

304 Roll Cage and Chassis

- A. All cars must have a roll cage, which is integral with the frame and does not encroach upon an imaginary cylinder, 20 inches in diameter, extending through the top cockpit opening directly above the seat. The roll cage should extend four (4) inches above the driver's helmet when seated in the driving position.
- B. The following are the minimum frame/chassis material requirements. Must be constructed of 4130 normalized tubing
 - TOP RAILS 1 1/2" x .095"
 - BOTTOM RAILS 1 3/8 x .083"
 - ROLL CAGE UPRIGHTS 1 3/8" x .083"
 - ROLL CAGE CROSSMEMBER 1 1/2" x .095"
 - UPPER RAILS 1 3/8" X .083"
 - REAR END SAFETY BAR HIGHLY SUGGESTED 1" x .083"
- C. Maximum width of main frame tubes 29 1/2 inches

305 Fuel System

- A. A conventional tail tank, fuel cell and the fuel contained must be carried on the centerline of the chassis and be located behind the driver. All cars must be equipped with a tail tank and fuel cell/bladder meeting the requirements of USAC and the SFI Specification 28.2.
- B. All tanks must have a minimum of four mounts to the chassis.
- C. Fuel tanks may not be mounted to the chassis utilizing any portion of the access plates or the nut plates bonded into the fuel bladder. Exception is a secondary mount attached to the top plate to prevent the fuel tank from separating from the chassis in the event of a failure of the primary mounts.
- D. Fuel shut off valve within drivers reach mandatory.

306 Bumpers/Nerf Bars

- A. The car must be equipped with a rear bumper at all times.
- B. Front and rear bumpers, and nerf bars must be constructed of magnetic and or stainless steel (NO TITANIUM) tubing with a minimum of 1.0 inch O.D. and 0.065 inch wall thickness.
- C. All cars must have a tubular front bumper extending no more than 23 inches from the leading edge of front axle and 8" inches from frame. Bumpers must be constructed so as not to cause a safety hazard.
- D. Nerf bars cannot extend beyond the outside edge of the tire at any time.



307 Steering and Suspension

- A. Removable steering wheels incorporating a quick release mechanism conforming to SFI Specification 42.1 are mandatory. Pip pin type mechanisms are not allowed.
- B. No rack & pinion steering allowed
- C. Welded aluminum or titanium suspension parts prohibited for the exception of Jacobs ladder (watts link)
- D. Drag link strap mandatory.
- E. Drag links and tie rods be constructed of 4130 or magnetic steel 1.0 inch O.D. and 0.58 inch wall thickness with no swedging of ends. Magnetic heim joints (rod ends) mandatory on drag link and tie rod.
- F. No electronic weight, shock, sway bar or any suspension item adjuster.
- G. Independent suspension is not permitted
- H. Only Front axles made of magnetic steel will be permitted. The minimum sizes permitted will be 2"x .156, 2 1/4" x .120, 2 3/8" or greater x .095

308 Wheels

- A. Plastic and/or carbon fiber wheels are not permitted
- B. The wheel diameter must be fifteen (15) inches.
- C. Front wheel(s) width is limited to ten (10) inches
- D. The wheel width for driven wheels is limited to a maximum of eighteen (18) inches on the right rear and a maximum of fifteen (15) inches on the left rear.
- E. A USAC approved tire bead locking device must be used on the outer bead seat of the right rear tire and wheel assembly.
- F. All wheels and wheel centers are subject to the approval of the United States Auto Club.
- G. All bolts are mandatory in Bead lock and wheel centers.
- H. Electronically controlled tire pressure bleeders will be allowed. Electronic bleeders may not be capable of being controlled or adjusted remotely.

309 Tires

- A. Hoosier 105/16-15 MEDIUM and the 105/18- Hard are the only approved right rear tires. "Emergency Tire".
- B. USAC/CRA must utilize Hoosier tires on all four corners. **USAC National must utilize Hoosier tires on all 4 corners beginning May 24, 2017**
- C. Any solvents or chemicals applied in any way to a tire that alter the chemical makeup of the compound or have the effect of altering tire durometer or construction is prohibited. Any tire can be confiscated at any time. Tire found to deviate from the original factory specifications, the maximum penalty is a one year suspension from competition and loss of all points earned for the season.

310 Throttle

- A. A minimum of two (2) return springs must be connected to the throttle.
- B. If the throttle actuating mechanisms is the cable type, the cable must be encased.

311 Brakes

- A. Carbon fiber or carbon composite brake discs or components are not allowed.
- B. If at any time during competition it becomes evident that a car is without brakes, the necessary repairs must be completed before the car can continue in competition.



312 Engine Size Limits

- A. Any engines not covered by the following specifications must be submitted to and approved by the Technical Director prior to entering a competition.
- B. Only small block V-8 engines with cam in the block and maximum 410.00 cubic inches.
- C. Engine block and cylinder heads must be machined from cast aluminum.
- D. Two (2) valves and one (1) spark plug per cylinder
- E. Cylinder heads must retain traditional valve pattern. Rotation of valves not permitted.
- F. No titanium crankshafts, connecting rods and/or rod caps.
- G. Only normally aspirated engines will be permitted. No Turbo chargers, super chargers and/or forced induction.
- H. 16 fuel nozzles maximum, two (2) per cylinder. One (1) located in cylinder head and/or one (1) in injector manifold.
- I. Only mechanical fuel injection systems allowed.
- J. Only throttle plate (butterfly) and shaft throttle body styles with round circular bores will be permitted.
- K. Oil pan must have inspection plug. Plug to be a -12AN fitting or 1.00"inch inspection plug. No plug may remove pan.

313 A4MP Alternative 410 Motor

- A. The A4MP Alternative 410 Motor Program is legal for use in all **National** and **CRA** events. The rules and specifications for this engine program are available at: www.alternative410motor.com (this program subject to performance evaluation by USAC)

314 Fuel

- A. Pure Methanol is the only approved fuel. **NO FUEL ADDITIVES**
- B. All fuel is subject to testing at any time. Any fuel that does not conform to the USAC standards, will be considered illegal. The use of illegal fuel could result in disqualification from the event and/or the entire program.

315 Ignitions and Electronic Equipment

- A. All cars must be equipped with one (1) ignition switch or emergency shut off located within easy reach of the driver.
- B. Electronically controlled fuel injection systems shall not be permitted.
- C. Only magneto type ignitions will be permitted. A single crank-trigger type system as back up ignition system will be permitted. One (1) switch that alternates the current between the magneto and the crank trigger may be mounted to the dash within drivers reach.
- D. Electronics that provide traction control are prohibited. All electronic components may be inspected, sealed or confiscated by USAC at any time. The maximum penalty for utilizing traction control is a one year suspension from competition and loss of all points earned for the season.
- E. The use of any data collection device is not permitted.
- F. Electronic ignition is not permitted; exception A4MP Motor Program.
- G. Tachometer only item permitted to record data, RPM only.
- H. Multiple coil pack ignitions not permitted; exception A4MP Motor Program.

316 Exhaust/Mufflers

- A. The car may be required to have mufflers if local conditions warrant. If so, this will be stated on entry forms. The technical director may disallow a muffler that in their opinion is not within the spirit or intent of this rule.

317 Safety Equipment

It shall be the responsibility of the Technical Committee to inspect all safety equipment prior to each event. Any participant not complying in full with all safety requirements in this Rule Book will not be permitted to compete.



- A. Approved aluminum and composite seats may be used, no fiberglass. Seats must be mounted with minimum of 4 bolts 5/16 diameter. Seats must be installed and used in accordance with manufacturer's instructions.
- B. It is mandatory that all cars have a headrest of high impact, shock-absorbing material meeting SFI Specification 45.2 behind the driver's head with a minimum thickness of one (1) inch.
- C. Seat belts must meet SFI 16.5 or SFI 16.1, be within two (2) years from date of manufacturer. (must have label) Seat belts must be installed and used in accordance with manufacturer's instructions.
- D. Helmets - All participating drivers must wear safety helmets designed specifically for auto racing that meet or exceeds the SA 2005 or SA 2010 Snell Foundation or SFI Foundation 31.1 Specifications and are labeled as such. Helmets will be subject to inspection at each event by the Technical and/or medical representative.
- E. Uniforms - All drivers must wear fire resistant underwear, socks, shoes, gloves and a one-piece uniform fitted snugly around the neck, wrists and ankles. It is recommended that you also wear a fire resistant head sock and/or helmet skirt. Recommended all above items meet SFI Foundation Specifications 3.2A and 3.3
- F. Arm Restraints - Arm restraints are mandatory and must be worn at all times during competition.
- G. Roll Cage Nets - It is mandatory that all cars be fitted with roll cage nets on both the left and right sides of the roll cage for all events. All roll cage nets must conform to SFI Specification 37.1, which specifies a functional quick release opening mechanism. The life of roll cage nets shall not exceed two (2) years. Caution should be used when positioning head restraining nets to be certain that the driver's head cannot get under the net in case of an accident. The bottom of the roll cage net should be as close to the top of the shoulder as possible.
- H. Roll cage nets will not be required if USAC approved full containment seats are utilized.
- I. Roll Cage Padding conforming to SFI specification 45.1 Mandatory if not utilizing full containment seat in all areas surrounding head. *Highly recommended with full containment seat.*
- J. *A SFI approved head and neck restraint system is highly recommended.*
- K. One way radio/receiver mandatory, (Frequency 464.5500) two way radio communication will not be allowed.

318 Car / Driver appearance

- A. USAC logo must be placed on top section of sail panel right and left side. USAC sponsor logo(s) must be placed on right and left lower cockpit side panels to be eligible for point fund.
- B. Car numbers must be displayed in three (3) areas one (1) each side of tail and one (1) on front section of hood.
- C. Numbers 2-99 will be assigned on a permanent basis provided car registered by January 15 of each year and competed in 51% or more of scheduled races in previous season.
- D. Drivers uniforms must display USAC logo on upper RH or LH chest to be eligible for point fund.
- E. The required Series Sponsor decals must be displayed in specified location to be eligible for contingency programs.

Sprint Car Division Procedures

1301 Qualification Order / Draw

All entries in the race, including post entries, are eligible to participate in a single drawing for qualifying order. The designated time for draw will be posted at the track (USAC vehicle) if participant fails to draw within designated time USAC will draw for them. **YOU MAY ONLY DRAW FOR ONE (1) ENTRY PER DRIVER**

At certain events, cars might qualify in groups using the fastest timed lap in a predetermined period as the official qualifying time

1302 Qualification Procedures

All qualifications will be held in accordance with PART VIII in the current USAC Rule Book and the Official Entry for the event with the following additions and exceptions.

1. Any car not able to qualify within three positions of its original position in the qualification draw order may line up at the end of the qualifying order with the loss of one lap from the qualification attempt and can start no better than top 50% of A- feature. Car still gets qualifying time with no penalty other than starting position for A-feature.
2. Any car that has not completed their qualification attempt will have 60 seconds from the completion of qualifications to present the car to be qualified with the loss of one lap from the qualification attempt and can start no bet-



ter than top 50% of A- feature. Car still gets qualifying time with no penalty other than starting position for A-feature.

3. In the event of a tie, the tie breaker will be competitor with the second fastest time.
4. Any replacement(s) or alternate(s) necessary to complete the starting field for a race will be based upon the posted results of the qualifying race(s) and/or the fastest official qualification time, or by draw order if no times are posted, and will be lined up at the rear of the starting field.
5. When the field of cars is insufficient to comprise a complete program, a car unable to qualify will be able to start last in the first available event. If more than one such car qualifies for the feature, these cars will be placed at the rear of the field in the order of their qualifying draw.
6. The Chief Steward is empowered to change the event format, including the number of laps run, as set forth in the Official Entry when unusual circumstances arise that demand this action.
7. All cars will go directly to scales post qualifying, if car misses scale and returns to pit or car found to be light will be scored last position. *Extenuating circumstances will be considered.*

1303 Drawing for Starting Positions

In the event qualifications cannot be held or completed, the starting positions shall be determined by a random draw to determine the starting order of the heat races. The specifics of the random draw are outlined in Part VIII, 8.9.

The Chief Steward has the authority to select and/or amend these procedures in unique situations.

1304 Provisional Starting Positions

The National Sprint Car Series will include a maximum of two (2) provisional starters in each feature event providing there are eligible entrants who accept this option. (USAC/CRA events may utilize one (1) provisional)

The following conditions apply to provisional starters:

1. The top 20 in Entrant points are eligible for a maximum of four (4) provisional starts per season National and two (2) for USAC/CRA with the top Entrant in points, not qualifying for the feature, being the first recipient. If an eligible Entrant elects not to use a provisional, his/her position will be taken by the next highest in point standings. No guaranteed start money if provisional used.
2. First event for 2016: "Provisional" will be based on 2015 season ending top 20 car owner points.
3. All events up to May 1, 2017 will be based on 2016 season ending top 20 car owner points and the top 20 in current 2017 car owner points. The first (2) from either category will be eligible. 2017 points take precedence.
4. After May 1, 2017 current top 20 car owner points will be used for provisionals.
5. Starting positions, point allocations and additional eligibility requirements can be found in 5.4C, 5.10 and 9.10C.

1305 Stopping on the Course

A car that stops for any reason after leaving the grid and impedes the start of the race will be placed at the rear of the starting field, exception is safety issue.

1306 Laps under Yellow Flag

1. In events of 60 laps or less, laps where the yellow flag is displayed will not be scored.
2. Cars stopped on the course and restarted will be placed at the rear of the field.
3. If the yellow flag is displayed before the field completes the first lap, a complete, and two abreast restart will be made with the exception that any cars not completing the first lap, or stopping, will be placed at the rear of the field. If more than one (1) car in either lane cannot make original line up, USAC will use crisscross procedure to establish new line up.
4. If the field completes the first lap under green, the first lap shall be scored. Any subsequent yellow flags will result in a single file restart lineup. This lineup will be determined by the last completed lap scored under the green flag.
5. Any car not completing the lap in which the yellow was first displayed, shall be considered involved in the incident and placed at the rear of the field.



6. If an incident occurs on the first lap where the yellow is displayed, and after running laps under yellow it becomes necessary to display the red flag, the restart lineup will be based on the yellow flag procedure and cars involved must start at the rear of the field.
7. A car unable to start a race that is later red flagged can enter the restart lineup at the rear of the field.
8. During a caution period a car may be called into the "designated pit area", using the Black Flag, for inspection by the Officials. If the car is determined to be safe to resume racing, and no work of any kind is performed, it may return to its previous position
9. Inadvertent yellow: A car that an inadvertent yellow is displayed for will be positioned in order of positions lost. Example: USAC throws a yellow for a car that appears to spin but does not; the car continues and loses 2 positions in process. The car that the inadvertent yellow was thrown for would line up for the restart behind the 2 cars that passed them.
10. If a yellow flag is displayed and all cars complete the lap except the car(s) causing the yellow, that lap will be scored as a completed lap for the entire field.

1307 Yellow Flag Work Procedure

1. If you leave the racing surface to perform any repair you will have 60 seconds to complete the repairs. Each car will only get to use the 60 second rule one time and this will only be allowed during the feature, there will be no time given during preliminary races.
2. The 60 second clock will start when the track is clear and the line-up is good and the car is stopped in the work area.

1308 Red Flag Procedure

1. Red flags will be opened up at the discretion of the Chief Steward. The white flag will be displayed, signaling to the crews that they may go out to the cars. Specifics of a red flag procedure will be given by the Chief Steward at the Drivers Meeting.
2. Drivers are to remain buckled in during red flags, unless otherwise instructed by a USAC official. Drivers will also be allowed to remain buckled in while refueling, with the engine off.
3. Any car that leaves the racing surface under red flag will be positioned at rear of field.

1309 Hazardous Mechanical Conditions

All cars must have nerf bars, rear bumper, hood and air cleaners (if exposed) in order to start in a competition. Competitors must start the event with these items but, may continue without nerf bars during the event if damaged.

1310 Repositioning

1. Any driver who improves his or her position during a start or restart by passing other cars before a designated point on the track shall be guilty of a violation. The penalty will be a repositioning of the car rearward two positions for each car passed. This penalty will be assessed at the next yellow caution period, if possible, or in the Official Finish of the race. Designated point will be specified at drivers meeting.
2. Any driver who does not maintain a nose to tail formation until past the designated point on the track during any start will be repositioned rearward 1 (one) position. *Extenuating circumstances will be considered.*

1311 Backup Cars

Teams may use a backup car any time between qualifying and the start of the A-Main. Use of backup car must be approved by Technical director. If a backup car is introduced before qualifications and makes original drawn position in qualifying order there is no penalty. If qualification spot is missed or you have remaining lap(s) you can qualify at the end under normal penalty of not being able to start feature in top 50% of field. If a backup car is introduced any time after original entry is qualified, the replacement car will start at the rear of next scheduled event qualified for. A backup car does not have to be part of a team's original equipment however the backup car cannot have already been entered in the event. Once a car has been withdrawn from an event, that car will not be allowed to be re-entered to competition during that event. The replacement car will be credited for points earned as the original entry.

1312 Event Procedure



1. In the event the race track needs to be run in (wheel pack) it is mandatory that all cars participate. All cars remain on the track until the checkered flag, group one (1) will remain on the track for hot lap session. Any car that leaves track before checker flag displayed will be subject to penalty of loss of one (1) lap in qualifying. Specifics will be addressed at drivers meeting.
2. All cars must be on the track or in the predetermined area ready to race before the allotted time to be in position has expired, any car that is late will be penalized two (2) rows/four (4) starting positions. Any car pushed after the field has started assembling must start at rear of the field.
3. All National events start at designated area turn four (4), original starts side by side you cannot improve your position until past the designated starting point. Restarts single file nose to tail in line; you cannot improve your position until past designated area. Refer to 1310 repositioning for penalty.
4. All National Feature events will use fifty (50) minute rule, regarding a necessary stoppage for fuel. Time starts at first engine start. Clock will stop during red flag condition and continue at first engine start.
5. All National point paying events will use six (6) car inversions for heats; fastest six (6) cars transferring from heats will be inverted for A-feature.
6. Cars may be weighed prior to and/or following any event, you will be notified at drivers meeting of any change to the scaling process. The scales will be available to all before hot laps.
7. Top Five 5 cars from feature go directly to scales unless otherwise instructed at driver meeting, if car found to be light that car scored last, awarded last place points and money. *Extenuating circumstances will be considered.*

1313 Rookie Eligibility

A driver's status for Rookie of the Year will be exhausted once that driver competes in a main event for the ninth (9th) time national, fifth (5th) time USAC/CRA overall, regardless of how many seasons that encompasses. Competing in eight (8) national, four (4) USAC/CRA main events or less will allow rookie status to be available for the following season.

1314 Amsoil DOMINATOR Sprint Car Incentive Program

1. The Amsoil DOMINATOR Sprint Car Incentive Program rewards the top-ten in owner points for races in the state of Indiana and the top-twelve in owner points outside the state of Indiana. The active incentive teams at each race will be based on points entering the event, with only those owners being eligible, whether all incentive cars are present or not. The driver for any event must be a licensed USAC driver to be eligible.
2. Incentives:
 - Free Pit Entry – Registered Car Owner and Licensed USAC Driver
 - Car Entry Fee Waived
 - *\$150 Bonus for races outside the state of Indiana**
3. The entry fee will be waived for all eligible cars at every event except for those requiring pre-registration. For those, competitors are responsible for providing their own entry fee and information. USAC will not cover.
4. USAC reserves the right to withdraw incentives from any car owner for any length of time, due to actions detrimental to the sport or violating the loyalty clause. Negative comments, either in interviews or on social media. The incentive teams are viewed as the standard in sprint car racing and will be held to higher expectations. The loyalty clause excludes incentive teams from racing a competing dirt sprint car event on the same day as a USAC National Sprint event. Furthermore, they will not compete within 24 hours and 200 miles of a scheduled USAC National Sprint event at a track that does not conduct at least 1 scheduled USAC event during the calendar year.



5. The 2017 Amsoil DOMINATOR Sprint Car Incentive Program goes into effect on February 18th, with teams finishing the 2016 season among the top-twelve being eligible to receive benefits. Points from the current season will establish the eligible teams starting on April 1st.