



## APPENDIX C

### 2012 **Dirt** Sprint Car Division Technical Specifications

**Specifics of Western Classic Racing Series go to page 6**

#### 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.

D. Chassis and Wheel Offsets:

**Outside of the right rear wheel, at the outside bead seat cannot exceed 46 inches from the centerline of the rear axle center section.**

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.

Engine and driveline on frame (chassis) centerline with a half (1/2") offset (one (1) inch overall) allowed. **2013 no tolerance allowed on engine and driveline offset must be zero (0)**

F. Weights

All cars must weigh a minimum of 1,325 lbs., including driver.

Cars may be weighed prior to and/or following any event, you will notified at drivers meeting of any change to scaling process. The scales will be available to all before hot laps.

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.

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.

**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 axels 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. **2013 all engines and drive line must be on centerline no offset and engine mounted straight up in vertical position.**

Only aluminum or steel torque tube type drivelines using only one U-joint will be allowed. All cars must be equipped with a drive shaft restraining hoop or strap securely attached to the chassis. Minimum hoop material is 1inch x.065 steel tubing.

Radius rods may not be attached within the confines of the cockpit. (Inside frame or chassis)

B. The driver shall be seated directly behind the engine; **drivers head can be no more than one (1") inch off center line of roll cage, measured at centerline of seat to TOP of driver's helmet when seated in an upright position.**

C. Only standard type Sprint Car bodies, tail tanks and hoods will be permitted.



- D. 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 and extend past front bumper. (Section 308 for bumper rule)
- E. 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.
- F. All cars required to run a full sprint-type appearing hood. Side panels covering the sides of the engine may not extend vertically any higher than any part of the hood covering the engine bay behind the front engine mount. A maximum overlap of two inches is allowed for proper fastening.
- G. 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.
- H. Right side cockpit panels may be a maximum of forty (40) inches high at the rear and a maximum of thirty-eight (38) inches high at the front as measured from the bottom of main frame tube at the engine plate and projected rearward twenty-one (21) inches. Right side cockpit opening must have a minimum opening of six (6) inches vertical and twenty-one (21) inches horizontal at any point. Including side visor see 303N.
- I. 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.
- J. Body (sail) panel may extend rearward to triangular bar at back of roll cage and may extend downward past shock mount to horizontal bar at cockpit.
- K. All paneling must not extend past edge of frame rails more than thickness of panel material.
- L. One (1) inch turnout allowed on all body and sail panel edges. (except sun visor)
- M. Sun visors are limited to nine (9") inches long and cannot be wider than the cage. Visor must remain flat on both sides (not considered body panel) for fan recognition; it is recommended that all teams place the driver's name on the visor in large letters.
- N. Side visors on roll cage (body panel) will be allowed, they will be limited to eight (8) inches tall. The minimum right side opening must be twenty-one (21) inches horizontal and six (6) inches vertical at any point. Left side visor may not be larger than right side visor. Visors that restrict driver's vision at the discretion of USAC officials will not be permitted.
- O. 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.
- P. 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.
- Q. 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 mandatory minimum frame measurements and are subject to inspection.
  - TOP RAILS 1 1/2" x .095", BOTTOM RAILS 1 3/8" x .095" or 1 1/2" 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"
- C. REAR END SAFETY BAR HIGHLY SUGGESTED 1" x .083"
- D. 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 fuel cell and tail tank 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.



- D. Fuel shut off valve within driver reach mandatory.

## 306 Firewall

An effective firewall must be installed between the engine compartment and the cockpit. the motor plates may not be made from carbon fiber or any type composite material.

## 307 Revolving Parts

- A. Highly recommended driveline containment system utilizing steel shield bolted to engine plate or containment blanket to cover torque ball and u-joint.

## 308 Bumpers

- A. The car must be equipped with a rear bumper at all times.
- B. Front and rear bumpers 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. Front bumper may not extend more than **23 ½ inches from center of front axle** and/or 8 inches from frame

## 309 Nerf Bars

- A. **Nerf bars cannot extend beyond the outside edge of the tire at any time.**
- B. 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.

## 310 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

## 311 Front Axle

- A. 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

## 312 Wheels

- A. Plastic and/or carbon fiber wheels are not permitted
- B. The rim diameter must be fifteen (15) inches.
- C. Front wheel(s) width is limited to ten (10) inches
- D. The rim 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.

## 313 Tires

- A. Hoosier HT2, HTW (same as HT2), hard F55 and DT3 only approved Right rear tire, LR, RF and LF open. **The HTW is a west coast tire that is identical to HT2**
- B. 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.

## 314 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.

## 315 Brakes

- A. No carbon or composite brake rotors

## 316 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.

## 317 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](http://www.alternative410motor.com) (this program subject to performance evaluation by USAC)

## 318 Fuel

- A. **Pure Methanol or Ignite Ethanol (red 114) is only approved fuels. NO FUEL ADDITIVES**
- B. **All fuel is subject to testing at any time.** Any fuel that does not conform to the USAC standards, as administered at the track, will be considered illegal. The use of illegal fuel could result in disqualification from the event and/or the entire program.

## 319 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 for exception of A4MP Motor Program.
- G. Tachometer only item permitted to record data, RPM only.
- H. Multiple coil pack ignitions not permitted for exception of A4MP Motor Program.

## 320 Radios

- A. One way radio or raceceiver mandatory. Frequency 464.5500

## 321 Mufflers

- A. The car may be required to have a muffler if local conditions warrant. If so, this will be stated on entry forms.
- B. Inserts not considered muffler, Schoenfeld part number 112535 (11") or 14272735-78 (14") are mandatory for all tracks that require use of muffler, unless noted otherwise on entry. (Western, USAC/CRA no specific)

## 322 Seat / Seat Belts

- A. Approved aluminum and composite seats may be used, no fiberglass. Seats must be mounted with minimum of 4 bolts 5/16" diameter.
- 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)
- D. Seat belts and seats must be installed and used in accordance with manufacturer's instructions.

## 323 Safety / Equipment

- A. 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.
  - 1. Helmets - All participating drivers must wear safety helmets designed specifically for auto racing that meet or exceed 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.
  - 2. Uniforms - All drivers must wear fire resistant underwear, socks, shoes, gloves and a one-piece uniform fitted snugly around the neck, wrist 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.
  - 3. Arm Restraints - Arm restraints are mandatory and must be worn at all times during competition.
  - 4. 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 the 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 nets should be as close to the top of the shoulders as possible.
  - 5. Roll cage nets will not be required if USAC approved full containment seats are utilized.
  - 6. Roll cage padding conforming to SFI specification 45.1 highly recommended. **Mandatory** if not utilizing full Containment seat in area surrounding drivers head.



7. **A SFI approved head and neck restraint system is highly suggested**

## **324 Car / Driver / crew 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.

## **Western Classic Racing Series**

- A. Engines exceeding 360 ci. with a maximum of 410 ci for the exception of Shwenke spec 377 will be required to run inlet Restrictors of 1 and 7/8 inch available only from Tommy Hunt at [wsusac@sbcglobal.net](mailto:wsusac@sbcglobal.net)
- B. Cars must weigh 1400 pounds with driver.
- C. Hoosier 105-18-15 HTW or HT2 right rear tire
- D. Two (2) provisional per season will be available to USAC registered committed Western Classic Racing Series entrants.
- E. Eligibility requirements for provisional use: Two (2) will be available each event to those that meet above requirements. The first two (2) entrants that failed to make A-Feature starting lineup and having the highest finishing positions in preliminary qualifying event will have first opportunity for use. Will start at rear with no guaranteed start money, will receive points.
- F. Procedures may vary please consult Tommy Hunt for information regarding specifics to Western Classic Racing.



## APPENDIX D

### 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 on entry and at 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 draw 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 twelfth (12) in A- feature. Car still gets qualifying time with no penalty other than starting position for A-feature.**
2. In the event a tie, the tie breaker will be competitor with the second fastest time.
3. 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.
4. 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.
5. 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.

#### 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 or by the current season point total of the driver and the entrant combined as they are listed on the official qualification draw list. The specifics of the random draw are outlined in Part VIII, 8.9 and starting lineup based on point totals is as follows:

1. Starting lineups will be determined as if the point totals were actual qualification speeds. The driver/entrant with the most points will assume the fast qualifier position. Driver/entrants without points will line up behind driver/entrants with points, in the order of their qualification draw. Qualification points will not be awarded when points and/or draw determine the field.
2. If more than a full field of cars is eligible and ready to qualify, the Chief Steward will, at his discretion, provide a modified format to include additional and/or all participants.
3. The Chief Steward will, at his discretion, provide a starting place at the rear of the semi-feature, or qualifying race, for any USAC National Sprint Car Driver Champion not previously qualified for this event.
4. If qualifications are held and the feature is run before the heat races and semi-feature, the feature will line up according to qualification times and started in accordance with the Official Entry Blank.
5. In the event it is necessary to run the feature event before the semi-feature or in the event the semi-feature is not run, the necessary starters to complete the feature line up will transfer according to the starting lineup of the semi-feature.

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 2012: "Provisional" will be based on 2011 season ending top 20 car owner points.
3. Second event for 2012: "Provisional" will be based on current 2012 season top 20 car owner points.
4. 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, 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.
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, car(s) that yellow was displayed for will be positioned in order of positions lost. Example: USAC throws a yellow for car(s) that appears to spin but does not; car(s) continue and loses 2 positions in process. The car(s) inadvertent yellow thrown for would line up for restart behind the 2 cars that passed them.

## 1307 Yellow Flag Work Procedure (A-Main)

1. If you leave the racing surface to perform a necessary repair you will have two (2) laps on ¼ mile tracks and one (1) lap for ½ mile or larger tracks to make necessary repairs.
2. Lap count starts and finishes when track clear (ready to race) and lead car crosses start finish line.
3. Necessary repairs are defined as something that would prevent you from being able to continue, such as a flat tire, lost muffler, no rear bumper, safety issue, etc. (car damage)
4. Not defined as necessary is changing a worn tire, adding fuel, or chassis adjustments.





## **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 racing surface under red flag cannot add fuel unless red flag condition becomes open to all.**
4. Any car leaves 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 any event with these items but, may continue without nerf bars during any racing (not qualifying) 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. If more than one (1) car cannot make original line up, USAC will use crisscross procedure to establish new line up.

## **1311 Backup Cars**

Teams may use a backup car any time between qualifying and start of A-Main. Use of backup car must be approved by technical director. If backup car introduced before qualification and makes original drawn position in qualifying order no penalty. Backup car introduced any time after original entry qualified and withdrawn new entry must be submitted. The car will start at rear of all subsequent events qualified for. Car will be credited for points earned as original entry.

## **1312 Event Procedure**

1. In the event race track needs to be run in (wheel pack) Mandatory all cars participate. All cars remain on track until Checker flag, group one (1) will remain on 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. If you are not on the track or in push off lane, ready to race at announced time during drivers meeting you will be penalized two (2) starting positions. Any car pushed after field started assembling must start at rear. Extenuating circumstances will be considered.
3. All National events start at designated area turn four (4), original starts side by side you cannot improve your position until past 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, 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 twenty four (24) car inversion total, Six (6) car inversion for heats, fastest six (6) cars transferring from heats will be inverted for A-feature.