



## **QUARTER SCALE AUTO CLUB, Inc.**

Website <http://www.qsac.org>



# **2020 Official Rules Package**

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# **Hello and welcome to the 2020 QSAC Official Rules Package**

We are recommending no changes be made to the 2020 QSAC Rulebook until January 1st, 2021. The only exceptions to this would be that existing rules need to be clarified and a manufacturer product name and/or model number changes beyond our control. It is the intent of the QSAC leadership team to provide the membership with a stable set of rules for the next two years and beyond. In 2021, the rules will be revisited, but it is our belief that stable and consistent rules is a benefit to the membership and helps position QSAC for future growth.

## **QSAC STATEMENT (11.24.05)**

Any rule change (s) submitted by any QSAC Official or Committee that may directly affect the manufactured product of a QSAC approved manufacturer (s), must be presented in writing to the Manufacturer's Advisory Committee Chairman for evaluation. Such proposed rule amendments shall be voted on by all of the QSAC approved manufacturers in a timely manner. The Manufacturer's Advisory Committee Chairman will present their recommendation (s) to the QSAC Official or Committee. The QSAC Co-Chairs and the Manufacturer's Advisory Committee Chairman shall work closely together to determine which proposed rules should be submitted for evaluation.

## **TECHNICAL COMPLIANCE RESPONSIBILITY**

It is the responsibility of each driver to insure his/her Quarter-Scale Race car is in total compliance with all applicable QSAC Rules. This means Safety, General and Technical Specifications as defined herein. It is important that each competitor read and understands all of the rules as they apply to safety, race format, driver-conduct, and technical specifications. Ignorance of the Rules is not a defense for violation of them. Failure to comply may result in immediate disqualification, loss of points for the event and further action as deemed necessary by QSAC.

## SAFETY REQUIREMENTS

1. All drivers, officials, and pit crew members/mechanics must be current members of QSAC to enter the track, hot pit or paddock.
2. The QSAC membership-insurance card or receipt of application must be displayed at all times during the racing event and must be presented when signing in.
3. Race promoters/Track owners must be able to show proof of QSAC track site insurance.
4. There must be at least two readily accessible dry-chemical "BC" fire extinguishers of not less than 1 gal. capacity, located at each end of the hot-pits.
5. The track perimeter will have a minimum 3-foot high retaining wall or barrier capable of stopping the cars without penetration. Spectators must be kept at least 4 feet behind this 3-foot wall.
6. The entrance and exit from the track must be protected to prevent cars from inadvertently leaving the racing surface in the direction of the pit or spectator areas.
7. Tracks must have a pit lane, separated and protected from the racing surface, for car service.
8. It is highly recommended that a catch fence be placed atop the "pit-wall" using fence fabric capable of rejecting a 1/4 scale car and that the "catch-fence" be a total of at least three feet including the pit-wall itself.
9. Tracks may be asphalt, concrete or dirt but must be free of standing water or debris that may be injurious if thrown by the cars.
10. No federally controlled substances are allowed anywhere on the premises of the entire track facility except for qualified prescription medication. "Qualified prescription medication" is defined as that prescribed by a medical physician and legal in all 50 states, and does NOT include marijuana, whether or not prescribed.
11. Spectator areas may allow alcohol only if that area is strictly separated from the track and pit areas. Any driver or pit crew drinking alcohol during racing activities will be disqualified. Repeated offenses will result in loss of membership. "Racing activities" are defined to include the awards ceremonies.
12. Only QSAC members may enter the "Hot Pit" or racing areas during race activities. A "Hot Pit" area is any location or area where a car's engine may be started while on ground. The "Hot Pit" must be separated from the "Working Pit" by a 3-foot fence or wall. QSAC card must be carried and displayed.
13. There will be no smoking allowed in the "Hot Pit" area.
14. Firearms are specifically prohibited on any person during any QSAC event.
15. No one will be allowed inside the 3-foot retaining wall while the cars are under the green flag. Pit crew or turn marshals may enter only after the yellow flag is displayed and the cars have slowed to idle or stopped.
16. QSAC encourages that a carburetor return-spring be utilized to force throttle-closure in the event of certain electrical or electronics failures.
17. No car will be permitted on the track with a leaking fuel system.
18. Refueling containers will be closable and marked to alert others of their contents.
19. All races will require a Race Director who will see that all drivers, pit crew and spectators are safely positioned while the cars are on the track.
20. The race activities must always display the maximum safety for spectators, drivers, officials, etc.

## SAFETY REQUIREMENTS continued

21. Members and/or tracks that fail to abide by or violate QSAC insurance policy guidelines, may face disqualification and/or suspension of membership or track sanction. The appropriate penalty will be determined by the QSAC Co-Chairs.

## GENERAL REQUIREMENTS (11.12.06)

1. The race format, program of events and types of cars will be the race organizer's responsibility.
2. All QSAC sanctioned and insured events should follow the QSAC format.
3. All drivers must register for the event prior to operating a car, giving officials the radio frequency he/she will be using. Any changes in frequency must be reported to officials immediately.
4. Any car not slowing for the yellow flag may be placed at the rear of the pack, or in the case of repeat offenses, black flagged and removed from the track for the duration of that race.
5. Disabled cars will be taken off the track for repair. No repair work will be allowed on the track or infield while the cars are running, except for the replacement of a lost wing or dislodged drive belt.
6. QSAC or track official may deem a car or driver a hazard and order the car retired from the race.
7. Cars may only be driven from the designated driver area.
8. No driver may leave the driver's stand to retrieve a disabled car from the track surface. Only pit crew or track personnel may retrieve disabled cars.
9. All cars must have an operational clutch and brake that will allow the car to stop with the engine running and proceed when requested by tech officials.
10. Before the start of the race, all cars will be required to do a brake check at the end of pit road before they enter the racing surface. Cars without brakes will not be allowed to race. (11.12.05)
11. All cars shall have front and rear bumpers. See Class rules. Any bumper considered being a hazard by tech officials should be corrected before said car shall compete. (11.12.06)
12. No aircraft frequencies will be permitted.
13. Radios or modules that use 2.4 GHz frequencies will be permitted. Telemetry modules will not be permitted. The Spectrum Lap Timing System is legal. (11.12.06)
14. A frequency control board will be in use at all events with a removable clip for each available frequency. It is strongly recommended that the driver using the frequency, replace the frequency clip with one that has their name on it. (11.12.05)
15. Any driver racing or working on a car (with his/her radio "on") must have the appropriate frequency clip attached to the radio antenna. No transmitters will be "on" without the clip attached. Failure to comply may result in disqualification.
16. Radio frequencies of each participant will be posted to alert drivers and officials of frequency conflicts.
17. Radio impounds may be implemented at the race organizer's discretion. The impounding of radios will be optional at all Region, District, and National Championship Events.
18. Personal transponder mounting location. Transponder should be mounted as low as possible in the car. The transponder must be mounted behind the centerline of the front wheels and in front of the engine. The preferred location is just behind the centerline of the front wheels, but because all cars are not configured the same, there is a tolerance built in the rule. (11.12.05)

**TRACK SANCTIONING AND  
CONSTRUCTION REQUIREMENTS (11.12.05)**

1. Track must at all times follow all SAFETY REQUIREMENTS set forth by QSAC.
2. Track must be operated in a manner that is considered fair and equitable within reason at all times.
3. Track must also operate in a manner that is conducive to a family atmosphere.
4. Track must agree to operate under QSAC rules at all QSAC sanctioned Region, District, or National events. There is no allowance for rule deviation unless authorized by an Area Director, Region Director, District Director, QSAC Competition Committee Chairman, or QSAC Co-Chair.
5. If more than four written complaints by current QSAC members are received in one year concerning a particular track, then that track will come under review by QSAC Competition committee and may lose sanctioning and forfeit all fees paid.
6. QSAC reserves the right to cancel sanctioning at any time, but must be by a majority vote from the QSAC Committee Chairmen.
7. Track must submit photos of safety measures to be reviewed by the Competition Committee Chairman when applying for sanctioning.
8. For tracks that are built with a temporary retaining wall, (parking lot), if the track is under 200 feet around measured on inside of the track, then 24 inches is sufficient height for the wall. If track is over 200 feet, then 36 inches is required.
9. It is strongly recommended that each track provide a fenced extension to the top of the pit-wall for the protection of the crews in the hot-pit. Such extension should bring the total height of the pit wall to at least 3 ft.
10. Tracks may be asphalt, concrete or dirt and the configuration may be road course or oval.
11. Tracks must have a pit lane, separated and protected from the racing surface, for car service.
12. The track sanctioning fee per year is \$80.00. For single day events the track sanctioning fee is \$50.00. Note: the single day event fee does not apply towards District, National, or N.C.S. events. (11.12.05)  
**For 2020**, the sanction fee is \$50.00 for the year or \$30.00 for single day events.
13. Sanctioning requires pictures of track and surrounding grounds and written description of fencing and safety equipment.
14. All tracks or facilities **MUST** have its own sanction purchased by April 1st of the current year if you want to be considered for a NCS race for the following year. (Excluding new tracks, New owners, or act of God)

**NCS Races Distribution of Funds**

The host track will receive 80% and QSAC will receive 20%. All host tracks at NCS Races will be required to provide Plaques or Trophies for the top 3 in the "A" main and in each QSAC sanctioned class.

The Best of Show award will be presented to each QSAC Sanctioned class in the form of a Plaque, trophy or other award by the host track.

## RACE DAY SCHEDULE OF EVENTS

QSAC sanctioned oval track races should follow the official race format outlined below to insure consistent and safe racing throughout the country. Major deviations from this format must be cleared with QSAC with respect to safety.

Local events, that is, non-Championship or Regional events that do not expect to draw competitors from other areas or regions may deviate from the format and general rules, but in no case, are any deviations from defined Safety Requirements acceptable. Failure to comply with the Safety Requirements may lead to cancellation of track sanction and insurance.

1. Sign in and Registration
2. Practice
3. Driver's Meeting
4. Best of Show'
5. Pre-Race Tech Inspection
6. Pill Draw or Single Car Qualifying
7. Trophy Dashes (optional)
8. Heat Races
9. Main Events
10. Post-Race Tech Inspection
11. Awards

1. **Sign in and Registration** - All competitors must sign in and register to show proof of QSAC membership and insurance before they are allowed on the track. Membership Card must be worn in plain sight at all times during the event.
2. **Practice** - "Controlled" practice must be available on race day to all the drivers and cars in the day's program. Each class of cars will be allowed to practice for a specific length of time (approximately 15 - 20 minutes) then alternated with another class. At least 2 rotations of practice are advised and more if time permits. No more than 10 cars on the track at a time. Each driver may return to the track as many times as he or she wish within a session provided they don't prevent others from equal track time. Each car and driver practicing must have signed up and paid their entry fee prior to race day practice.
3. **Driver's Meeting** - Prior to each day's events, the track officials shall conduct a meeting of drivers and pit crews for explanation and discussion of the day's events, local ground rules, specific event regulations and rules clarifications. All drivers, their pit crews and race officials are required to attend. It is each driver's responsibility to see that he and his crew are present. Failure to comply may result in penalty to the driver.
4. **Best of Show** - Best of Show is the judging and awarding of the best appearing car in each class. It will be based upon authenticity, beauty and color, cleanliness, design and attention to detail. Judging will be the responsibility of the race promoter or his designate. Best of Show bodies need not be raced, but each body is eligible to win one Best of Show competition only.
5. **Pre-race Tech Inspection** - At all Region Point-Series, Region Championship, District and National events, all cars must go through a pre-race tech inspection to insure compliance to QSAC rules and technical specifications. Each car will be weighed, measured and visually scrutinized for compliance prior to taking the track. Each car-passing tech will receive a sticker. No car will race without tech sticker. Any car not in compliance with the rules will be given ample opportunity to correct the problem.

**Note:** It is suggested that pre-race tech inspection be used at local/weekly events on a periodic basis to insure rules compliance.

## 6. Pill Draw or Single Car Qualifying (11.12.05)

Local tracks and clubs may decide to use either qualifying method and may determine how the heat races will start, either straight-up or inverted.

**Pill Draw** - The track owner/promoter must provide a Pill-Draw capability consisting of a set of "pills" numbering at least 1-50.

Draw per class must include only the number of pills to equal the number of cars entered in the class. (i.e.: 20 GN's = pills 1-20 for draw). In addition, at weekly races, track officials may choose to use the "Computer-Scramble" option available in some computer-scoring systems.

## Timed Qualifying Session-Fast Lap Qualifying-(12.13.13)

Fast Lap Qualifying will take place during the last controlled practice before heat races on Friday for all classes.

Qualifying will be per class and a timed session. During each class' timed session, the racers may enter the track at any time for any length of time they desire, they may also re-enter the track at any time during their classes' time.

In the event of too many entries to allow for ample time for all class entries to get equal opportunity, the Race Director will divide the class by random draw and then those drivers will have a timed session in which to qualify.

The maximum length of time drivers will be allowed to set a qualifying time is 15 minutes. This time will be announced in the drivers meeting.

The qualifier must race the car he / she qualified with. This is to mean that one driver cannot qualify a car for another driver.

### NO DRIVER SUBSTITUTIONS

The qualifier must race the car he/she qualified with. **Note:** For all of the QSAC Showdown N.C.S. Races it will be mandatory to run Timed Qualifying Sessions and to invert the heats, unless a rainout situation occurs.

7. **Trophy Dashes** - Should the race promoter elect to hold trophy dashes, they will consist of the four fastest cars in each class started inverted - fastest cars in the rear. Race duration may be up to 10 laps.
8. **Heat Races** - Heat races will be lined up according to class and by each car's pill draw position or qualifying time as in the following example 24 car field: **(03.04.12)**

Pill Draw - (24 cars should be run in four 6-car heats)				
Start Pos	Heat #1	Heat #2	Heat #3	Heat #4
1	Fastest Qualifier	2nd Qualifier	3rd Qualifier	4th Qualifier
2	5 <sup>th</sup>	6 <sup>th</sup>	7 <sup>th</sup>	8 <sup>th</sup>
3	9 <sup>th</sup>	10 <sup>th</sup>	11 <sup>th</sup>	12 <sup>th</sup>
4	13 <sup>th</sup>	14 <sup>th</sup>	15 <sup>th</sup>	16 <sup>th</sup>
5	17 <sup>th</sup>	18 <sup>th</sup>	19 <sup>th</sup>	20 <sup>th</sup>
6	21 <sup>st</sup>	22 <sup>nd</sup>	23 <sup>rd</sup>	24 <sup>th</sup>

Each heat race round of a specific class must be run off before the next class's heats. The sequence will be Sprint Cars, Limited Sportsman, Sportsman, Super Truck and East Coast Modified.

### Heat race duration may be

Sprint Cars	15-35 Laps
Limited Sportsman Car	15-35 Laps
Super Truck	30-50 Laps
Sportsman Stock Car	30-50 Laps
ECM	30-50 Laps
Grand National Car	30-50 Laps

### 9. Main Event (03.04.12)

A maximum of 10 cars will make up each main event.

The top 6 qualifying cars will automatically transfer into the "A" Main. The remaining cars will be placed into the lower mains based on qualifying results.

The top 4 cars from the lowest main's results will "bump" into the next main. The top 4 cars from the results of that main will then "bump" into the next main and so on through to the "B" main. The top 4 finishers from the "B" main will make up starting positions 7 through 10 in the "A" Main.

It is the promoter's option at local and regional races to run one to three rounds of qualifying heat races. Showdown N.C.S. District Races will run 2 rounds of heats. "The Final Showdown" N.C.S. Race will run 3 rounds of heats. If only one round of heat races is used because of weather, the cars transfer into the mains according to their finish from that heat race.

The number of heat race transfers to each main event is dependent on the number of heat races run. For example, if 14 cars are entered, two heat races of 7 cars each would be run. The top 3 cars from each of the 2 heats would transfer into the "A" Main. The remaining 8 cars would run in the "B" main with the top 4 finishers "bumping" into the "A" Main.

If more than one round of qualifying is run, a point system where first place earns 1 point, second place earns 2 points, third place earns 3 points and so on would be used. The six drivers scoring the least points would automatically transfer into the "A" Main with the driver with the lowest total score winning the pole position. Ties in points would be decided by qualifying times (or pill draw if used).

The following charts outline the number of laps for the various classes and mains.

**Main Event Duration (Local & Regional Races)**

	A-MAIN	B-MAIN	C-MAIN & DOWN
Sprint Car	50 Laps	30 Laps	15 Laps
Super Modified	50 Laps	30 Laps	15 Laps
Limited Sportsman	75 Laps	40 Laps	30 Laps
Super Truck	100 Laps	40 Laps	30 Laps
Sportsman	100 Laps	50 Laps	30 Laps
East Coast Modified	150 Laps	75 Laps	30 Laps
Grand National	150 Laps	75 Laps	30 Laps

**10. Post-Race Tech Inspection (11.12.05)**—At all Region point series races, Region Championship races, District and National events, the top four A-Main finishing cars must be impounded and the top three must complete the post-race tech inspection before the race results can be made final. The fourth-place car will be an alternate should one of the others be disqualified. In the event, that all four impounded cars are disqualified, the fifth-place car will be declared the winner.

At the completion of each "A" Main, all the finishing cars must be stopped and remain on the track until the results are announced. The drivers or pit crew will be allowed to shut off the engines but no other work is allowed.

The top four cars will be removed by the officials to a guarded impound where the top three cars will be reweighed, re-measured, and carefully checked for rules infraction.

In addition, one engine may be checked using the properly calibrated and certified instruments. Each engine must be checked also for: visible signs of modification, carburetor bore size and carburetor-mounting block bore size. During a District, National, or N.C.S. Race, a post-race technical inspection of a car and engine

from each class shall be discretionary. Such inspection shall include measuring port heights, the cylinders will be removed and inspected, the crankcases split and inspected internally, and all other stipulations of the particular class. Upon completion of each "A" Main, the top four finishing cars in each class will be immediately impounded by the National Tech Director or QSAC Tech Inspection Supervisor.

First place in each class will undergo technical inspection. If 1st place fails 2nd place will then be inspected and so forth. The driver or his designate must perform all disassembly work. The track must provide an adequate setting for the post-race technical inspection. In the event that post-race inspection finds a participant to be outside the rules, another of the top four cars will be chose for inspection.

QSAC is not responsible for replacing gaskets or seals of engines that are tore down. It is the racers responsibility.

Any car found to be illegal would be disqualified from the event relinquishing any prize and/or points awards.

The QSAC Tech Inspection supervisor will impound any part of any engine found to be illegal due to the addition or removal of material. An engine found to be altered, even though it may measure legal, will be disqualified and the altered parts will be confiscated and destroyed.

Examples: Cylinders with polished and/or enlarged and/or repositioned intake, exhaust, or transfer ports, sand or bead-blasted surfaces, or machined base, machined crankcases, altered or lightened flywheels, enlarged carburetor or mounting block bores etc.

Note: It is suggested that post-race tech inspection be used at local/weekly races on a periodic basis to ensure rules compliance.

**11. Awards (11.12.05)** - Following tech inspection, the race results will be declared official and the awards will be given out. Awards may be any or all of the following:

Local, weekly, and/or series races may award points, cash, trophies, or non-cash prizes but must award points according to the QSAC schedule. Region point series, Region championship races, District and National races must be advised to QSAC and the dates cleared by QSAC. Promoters will not be required to commit to a guaranteed (beyond an entry fee payout) purse

It will be left up to the promoter if they wish to have awards and/or a cash purse for Region Championship events.

Region Championships are to be promoted primarily for the benefit of the racers who have supported the races at tracks within their respective Region, whether Region Series Races or the weekly events at their local tracks. To qualify as a bona-fide Region Championship, such events should be scheduled near the conclusion of the regular racing season, (i.e.:) the fall of the year.

Trophies or Plaques, Cash Awards or Non-Cash Awards, Points  
Cash awards will follow the QSAC payout schedule.

Point's awards will follow the QSAC Point Allocation System

Finishing Pos	Points	Finishing Pos	Points
1	100	11	90
2	99	12	89
3	98	13	88
4	97	14	87
5	96	15	86
6	95	16	85
7	94	17	84
8	93	18	83
9	92	19	82
10	91	20	81

**Note:** No participation points will be awarded for the QSAC Showdown N.C.S. Races.

## RACE FORMATS - PROCEDURES

### 1. Standardized Entry Fees

Following entry fees will apply to QSAC sanctioned races:

\$10.00—\$20.00	Local / Weekly Races
1st Car—\$40.00 or Less	Region Point Series Races
1st Car—\$40.00 or Less	Regional Championship
1st Car—\$45.00 or Less	Special / National Events

Class	Entry Fee	Fuel Fee
Sprint Car	\$40	\$10
Limited Sportsman	\$45	\$10
Super Truck	\$45	\$10
Sportsman	\$45	\$10
East Coast Modified	\$45	\$10
Grand National	\$45	\$10
\$10 Discount for Multiple Classes*		*Fuel Fees May Vary*

### 2. Race Starts (11.3.12)

- Each race will have the race director who will control the race events. He must have an assistant to help spot problems around the track and assist in car lineups, frequency problems, etc.
- All cars must perform a brake check at the end of pit road before being allowed to enter the track.
- The cars will be allowed five warm up laps before each race to warm up tires, engines, etc. After warm up, the director will caution the cars to line up single file or in two lines, (promoter option) in the race lineup, at a slow pace. When the cars are properly aligned, the green flag will be flown as the cars come off turn four.
- The Race Director must also use a whistle or horn as an audio signal to the drivers of any change in flag situations.
- There will be no inside passing after the green flag is displayed on starts until the cars have crossed the start/finish line. Violation will result in the immediate display of the yellow flag, and the violator will be placed at the back of the field. Tracks opting for double file starts must allow position leeway between the two car lanes at the green flag. It is the Race Directors discretion if it was a clean start or not.

### 3. Cautions (11.09.12)

- There will be a caution and use the audio signal for any car stopped on the track infield or outside perimeter of the track after allowing sufficient time for the car to resume under its own power. We should refrain from cautions if the car can continue. If a car is pointed in the wrong direction on the track a caution is automatic.
- The driver of a car who goes to the infield by choice must indicate if he wants a caution or not.
- Cars involved in caution situations and who require attention on the track to continue must go to the rear of the field.
- Cars requiring repair during yellows must be taken to the pit lane for work. No work is allowed on the track except for replacement of wings or dislodged drive belt, in which case the car goes to the rear of the field.
- It can be an option to count all yellow laps and allow cars to enter under a green flag conditions.
- Caution situations will be a minimum 2 laps starting with first incident, with no passing under caution.
- A one (1) lap penalty will be assessed for passing under yellow. All cars must hold their position behind the leader.
- Any car causing three (3) cautions in any one race may be black-flagged.
- The leader and all cars must slow to a speed that satisfies the Race Director. Any car not slowing will go to the rear.

- When a caution appears, the track is yellow all around –no racing back to the start/finish.

- The race director must allow yellow flag cars sufficient time to catch up to the rear of the field. If a car is not able to catch up or wishes to be passed during a caution to prevent danger to other drivers, the driver must pull to the infield side of the back straight to indicate to fellow drivers his situation.

### • Man-Up Rule (12.13.13)

In the case of a caution, all cars/drivers involved will have the first caution lap to agree upon who was at fault, that driver is to take his/her car to the rear of the field. If on the second caution lap, no agreement can be reached, then the Race Director will take over and send all cars to the rear of the field. Drivers not obeying the Race Director can be penalized one (1) lap. Drivers will receive one (1) warning to move to the rear of the field

- If an incident occurs during slow laps after a yellow, any cars involved are to be returned to the track position they occupied prior to the incident.

### 4 Restarts

- All restarts will be single file starts. Passing will be allowed on either side under a "Restart" condition.

### 5 Checkered Flag

- A race will be considered completed at the moment the checkered flag is displayed or at the moment the scheduled distance is completed by any car, whichever occurs first.

- All running cars must cross the start/finish line on their lap following the checkered for the race to be properly scored.

- Cars not completing the scheduled distance will be ranked in order by total laps completed and the sequence of the finish.

- When any race finish order cannot be determined, the track officials will determine the finish. Their decision is final.

### 6 Black Flag

- The race director will black flag a racer only if in his/her opinion a car is creating undue hazard on the track.

- The black-flagged car must go to the pits until the hazard is resolved.

### 7 Pit Stops - Refueling - Red Flag Stops (11.12.05)

#### Red Flag Stops

- Drivers can pit anytime under green flag conditions.

- Refueling shall be accomplished at 50 or 75 lap intervals (depending on track size) under a combination red/yellow-flag condition in all classes. On the 49th or 74th lap, a red/yellow flag shall be displayed indicating the refueling-stop. All cars will assemble behind the leader and enter the pits in this order. After a 20 second pause during which all cars are refueled, the cars will exit pit-lane and when all cars are clear, the green flag will be thrown when the leader is exiting turn four.

Note: Any car requiring repairs during a pit stop, must be removed from the pit lane. In the case of Red Flag pit/fuel stops, the car requiring repairs will be pulled from the order in which it entered the pit lane and returned at the back of the field.

- QSAC Showdown N.C.S. Races will have mandatory red flag stops.

- Local tracks and clubs may decide to run green flag stops.

### 8. Driver and Pit Crew

- Only drivers competing in the specific heat race or main event currently on the track are permitted on the drivers stand. Each driver is limited to one pit person in the hot pit area. A crew member may leave the hot pit area and enter the drivers stand to communicate with the driver for a maximum of three laps and a maximum of two occurrences during the specific heat race or main event.



- Inside the final ten laps of the heat race or main event, no crew member is allowed to enter the driver's stand, regardless of the circumstance.
- Two-way radio communication between a driver and crew is NOT permitted in any class.

### 9. Un-sportsmanlike Conduct

The following actions are considered un-sportsmanlike and will be dealt with in a manner consistent with the policies set forth below.

- Deliberate destructive action on the track during a practice session or race.
- Physical abuse of another competitor, pit person, or Race Official.
- Excessive and continuous verbal abuse of another competitor, pit person, or Race Official.

District, Region, or Area Director are empowered to disqualify, at his/her discretion, any competitor guilty of one or more of these infractions. The incident shall be reported to the QSAC board, which will determine if further action should be taken. Depending upon the severity of the infraction, remedies including racing eligibility suspension and/or membership revocation could result.

### 10. Protests

In the event it becomes necessary, a competitor has the right to submit a protest. If a protest is submitted, it must clearly and specifically state what is being protested, referencing the applicable rule (s) being violated. Only those issues specifically protested will be inspected or investigated. In the event that a violation is inadvertently discovered during the inspection process that is not identified

- specifically, by the submitted protest, it will be noted, however no penalty would be assessed.
- A protest fee of \$25.00 (cash) shall be applicable to each protest submitted. If the ruling is in favor of the protest, the fee will be returned to the protestor. If the ruling is unfavorable, the fee will be forfeited to the host club. In the event of an unfavorable ruling regarding the disassembly of a motor or carburetor, the fee will be forfeited to the protested competitor to offset the cost of re-assembly of his or her equipment.
- Only a driver in the specific heat race or main event in which the violation or infraction occurred may submit a protest. The written protest, including the cash fee, must be submitted to the Chairman of the Protest Committee, Race Director, or ranking QSAC official present, within ten minutes of the conclusion of the heat race or main event in question. If the specific protest may impact the competitors involved in the next scheduled heat race or main event, that heat race or main event shall be delayed until the protest is ruled on.
- In establishing the penalty for a favorable protest ruling, the nature and intent of the infraction and the degree of competitive advantage will be taken into consideration. Penalties may range from a warning to disqualification from the event. Protest rulings are considered final.

### QSAC Showdown N.C.S.

Here is a summary of the overall program. Locations are chosen by a review of eligible locations with an eye toward suitable facilities and geographical distribution. Event location decisions will be a composite of review by the Co-Chairs and the Chairman of the Competition Committee. Considerable care will be given to the scheduling of the events, and their locations, to insure accessibility to the maximum number of competitors from around the country. All races will be conducted under QSAC Rules. As a prerequisite, all host tracks will be QSAC sanctioned at least 60 days prior to hosting an event. The series will consist of six (6) events, five (5) District Showdown races and one (1) Final Showdown race, scoring your best three (3) finishes for the National Championship Awards. Three (3) NCS races required to qualify for awards. Only competition points will be awarded, no participation points. National Championship classes will be Limited Sportsman, Sportsman, Sprint Car and ECM. Competition points, cash, merchandise, and gift certificates will be awarded at all six individual events. It is required that the host track supply event trophies or plaques for 1st thru 3rd in all classes at each of the six individual events. Entry and fuel fees will be per the following schedule:

<u>Class</u>	<u>Entry</u>	<u>Fuel</u>
Sprint Car	\$40	\$10
Limited Sportsman	\$45	\$10
Super Truck	\$45	\$10
Sportsman	\$45	\$10
Super Late Model	\$45	\$10
ECM	\$45	\$10

Note: There will be a \$10 discount given for additional classes by the same driver. Fuel fees may vary do to regional cost differences.

The fees collected from the entries will be allocated with the host track receiving 80%, QSAC receiving 20%. All fuel fees will be

allocated directly to the host track unless other arrangements are made prior to the event.

Any deviations from the standard QSAC Showdown N.C.S. format must be submitted in writing to the Competition Committee for approval. Any and all approved deviations from the standard format must be advertised on the respective Race Flyer.

Any track selected to host an event must provide personnel to man the positions of Race Director, Scorer, track fuel distribution, pre-race tech, and post-race tech, a minimum of two Race Spotters, and have Sign Up personnel. The track must supply an entry form for sign up, tech stickers, and paint to mark the engines during pre-race tech. Please contact the National Tech Director for QSAC fuel bottles. The Race Director or QSAC Competition Committee Chairman will choose a five (5) person protest committee for the event.

**NOTE: It is the responsibility of the Host Track and/or the Race Director to document (make printed copies) of all single car qualifying, heat race, and main event results. The documents must be sent to either of the QSAC Co-Chairs within 2 weeks after an event has concluded. The Co-Chairs may be contacted by phone or e-mail for mailing instructions at the following:**

All cars and trucks must have a "WWW.QSAC.ORG" decal applied to the upper front windshield. Sprint Cars must have the same decal applied to the front of the upper wing. This is mandatory to receive Showdown Series points and awards for the Event entered.

## AWARDS (11.22.07)

Awards for all six (6) of the QSAC Showdown N.C.S. Races:

**Pole Award SPONSOR: Water Jet Fabricating**

**QSAC Hard Charger Awards: 1<sup>st</sup>-\$25, 2<sup>nd</sup>-\$15, 3<sup>rd</sup>-\$10 for each class presented by QSAC.**

### For "The Final Showdown" Race only:

**Bishop Racing Products** will be sponsoring the **BRP Showdown Dashes**: the winner of the 15 lap dashes (all eligible classes) will receive a \$100.00 **BRP** parts certificate.  
*Special thanks to Todd Bishop*

## QSAC N.C.S. Format

The general District format of the QSAC Showdown N.C.S. follows the standard QSAC event formats except as noted below. The program at each event must include races for each official QSAC class in which 3 or more cars are present.

- Points will be awarded, as outlined on page 8, for each eligible Class in which at least 3 cars compete. Eligible classes include Limited Sportsman, Sportsman, Super Truck, Sprint Car and East Coast Modified. **Note: If you run Limited Sportsman, you cannot run any other class. (03.16.12)**
- A Best of Show for each eligible class with an award (trophy or plaque) for the winner is OPTIONAL. Best of Show Bodies need NOT be raced.
- It is required that the host track supply event awards (plaques or trophies) for 1st, 2nd, and 3rd place in all classes.
- For QSAC Showdown N.C.S. races, the 3 highest finishes per competitor will be used to determine their final standing in the National Championship. The top 3 in each class at the end of the series will be awarded trophies or plaques supplied by QSAC. **(11.12.06)**
- The Limited Sportsman, Sportsman, Sprint Car and ECM model winners at each of the NCS races will get an automatic entry in the **BRP Showdown Dashes** which are being held at "The Final Showdown" race. One entry per driver. More information will be given about the **BRP Showdown Dashes** on page 16.
- The QSAC Showdown N.C.S. Races will have Timed Qualifying Sessions on Friday and two rounds of heat races (with inverted starts). On Saturday there will be controlled practice and the mains.
- In the event single car qualifying cannot be completed on Friday due to weather; a pill draw will be completed (Friday night, after qualifying is suspended). The **Pole Awards** will be awarded to the top qualifier (driver with the least amount of heat race points) of the "A" main in each eligible class.
- In the event a driver is not able to participate in the qualifying activities on Friday, he or she will be entered in the heat races for their class, in the last qualifying position (In the order they registered if more than one driver is involved).
- A standard bump-up format utilizing as many lower mains as needed to accommodate all class entries is required.
- In the Sprint Car class, only cars complying with the "Sprint Car" rules are eligible for competition.

## Timed Qualifying Session—Fast Lap Qualifying— (12.13.13)

- Qualifying will take place during the last controlled practice before heat races on Friday for all classes.

Qualifying will be per class and a timed session. During each class' timed session, the racers may enter the track at any time for any length of time they desire, they may also re-enter the track at any time during their classes' time.

In the event of too many entries to allow for ample time for all class entries to get equal opportunity, the Race Director will divide the class by random draw and then those drivers will have a timed session in which to qualify.

The length of time drivers will be allowed to set a qualifying time is 15 minutes.

The qualifier must race the car he / she qualified with. This is to mean that one driver cannot qualify a car for another driver.

**NO DRIVER SUBSTITUTIONS.**

### Following Lap Count minimum format required at each event

Sprint Car	A-Main	100 Laps
	B-Main & Lower	50 Laps
Limited Sportsman	A-Main	75 Laps
	B-Main & Lower	50 Laps
Sportsman Stock Car	A-Main	200 Laps
	B-main	100 Laps
	C-Main & Lower	75 Laps
East Coast Modified (ECM)	A-Main	300 Laps
	B-Main	150 Laps
	C-Main & Lower	75 Laps
Grand National Stock Car	A-Main	300 Laps
	B-Main	150 Laps
	C-Main & Lower	75 Laps

**Note:** If there are less than 10 entries, the number of laps may be reduced.

### Heat Races

- Heat races will be lined up according to class and by each car's qualifying time or pill draw (because of weather) as in the example of a 24-car field found on page 8.
- The five (5) N.C.S. races will have two heat races two (2) on Friday. **(03.04.12)**

### Mains

- A maximum of 10 cars will make up each main event.
- The top 6 qualifying cars will automatically transfer into the "A" Main. The remaining cars will be placed into the lower mains based on qualifying results.
- The top 4 cars from the lowest main's results will "bump" into the next main. The top 4 cars from the results of that main will then "bump" into the next main and so on through to the "B" main.
- The top 4 finishers from the "B" main will make up starting positions 7 through 10 in the "A" Main.
- Showdown N.C.S. Races will run 2 rounds of heats. "The Final Showdown" N.C.S. Race will run 3 rounds of heats. If only one round of heat races is used because of weather, the cars transfer into the mains according to their finish from that heat race.

- The number of heat race transfers to each main event is dependent on the number of heat races run. For example, if 14 cars are entered, two heat races of 7 cars each would be run. The top 3 cars from each of the 2 heats would transfer into the "A" Main. The remaining 8 cars would run in the "B" main with the top 4 finishers "bumping" into the "A" Main.

- If more than one round of qualifying is run, a point system where first place earns 1 point, second place earns 2 points, third place earns 3 points and so on would be used. The six drivers scoring the least points would automatically transfer into the "A" Main with the driver with the lowest total score winning the pole position. Ties in points would be decided by qualifying times (or pill draw if used).

### Initial Race Starts and Re-starts

- On initial race starts, the cars will line up single file and there will be no passing before crossing the start finish line.
- On re-starts, the cars will line up single file and passing on either side is allowable only after the green flag has been displayed.
- It will be the Race Directors discretion, to re-start the race with a green, white, & checkered flag, if there are enough laps left in the race.

### Yellow Flag

- The Race Director will fly the yellow flag and use the audio signal for any car stopped on the track, infield, or outside perimeter of the track after allowing sufficient time for the car to resume under its own power. He should refrain from yellows, if the car can continue. If a car is pointed in the wrong direction on the track, the Race Director should immediately yellow flag the race.
- The driver of a car who goes to the infield by choice must indicate to the Race Director if he wants a yellow or not.
- Cars involved in yellow flag situations and who require attention on the track to continue must go to the rear of the field.
- **Man-Up Rule (12.13.13)**  
In the case of a caution, all cars/drivers involved will have the first caution lap to agree upon who was at fault, that driver is to take his/her car to the rear of the field. If on the second caution lap, no agreement can be reached, then the Race Director will take over and send all cars to the rear of the field. Drivers not obeying the Race Director can be penalized one (1) lap. Drivers will receive one (1) warning to move to the rear of the field.
- If a car is "clearly" spun out after the caution has been displayed, that car will be allowed to retake its position prior to taking the green flag.
- Cars requiring repair during yellows must be taken to the pit lane for work. No work is allowed on the track except for replacement of wings or dislodged drive belt, in which case the car goes to the rear of the field.
- All yellow flag laps will count.
- Caution situations will be a minimum 2 laps or at the Race Directors discretion starting with first incident, with no passing under yellow.
- A one (1) lap penalty will be assessed for passing under yellow. All cars must hold their position behind the leader as designated by the Race Director.

### Checkered Flag

- A race will be considered completed at the moment the checkered flag is displayed or at the moment the scheduled distance is completed by any car, whichever occurs first.
- All running cars must cross the start/finish line on their lap following the checkered for the race to be properly scored.
- Cars not completing the scheduled distance will be ranked in order by total laps completed and the sequence of the finish.
- When any race finish order cannot be determined, the track officials will determine the finish. Their decision is final.

### Black Flag

- The Race Director will use a black flag only if in his/her opinion a car is creating undue hazard on the track.
- The black-flagged car must go to the pits until the hazard is resolved.

### Pit / Fuel Stops - Red Flag

- All QSAC Showdown N.C.S. Races will have Red Flag Fuel Stops at 50 or 75 lap intervals depending on the track size.
- Drivers can pit anytime under green flag conditions.
- Refueling shall be accomplished at 50 or 75 lap intervals (depending on track size) under a combination red/yellow-flag condition in all classes. On the 49th or 74th lap, a red/yellow flag shall be displayed indicating the refueling-stop. All cars will assemble behind the leader and enter the pits in this order. After a 20 second pause during which all cars are refueled, the cars will exit pit-lane and when all cars are clear, the green flag will be thrown when the leader is exiting turn four.

Note: Any car requiring repairs during a pit stop, must be removed from the pit lane. In the case of Red Flag pit / fuel stops, the car requiring repairs will be pulled from the order in which it entered the pit lane and returned at the back of the field.

### Pre-Race Technical Inspection

- All cars must go thru pre-tech inspections to insure compliance with the QSAC rules and technical specifications for their class. The pre-race tech inspection will consist of visually scrutinizing for rules compliance, weighing the cars / trucks, check spoiler height, check car / truck roof height, check right front tire compound, and marking the engines' screws / bolts with paint. Only one body will be inspected. Each car passing tech will receive a sticker. No car will race without a tech sticker. Any car not in compliance with the rules will be given ample opportunity to correct the problem.
- After an engine has been painted, you may not open it up or change an engine. If for some reason, a driver needs to replace their engine, the new and old engine must be taken to the Tech Director to be marked with paint. The engine being replaced may be subject to being tore down if the Tech Director, Race Director, or a QSAC Official deems it is necessary.

### Post-Race Technical Inspection

- A post-race technical inspection of a car and engine from each class shall be mandatory. Such inspection shall include measuring port heights, and all other stipulations of the particular class. Upon completion of each "A" main, the top four finishing cars in each class will be immediately impounded by the Tech Director.
- First place in each class will undergo technical inspection. If 1st place fails 2nd place will then be inspected and so forth. The driver or his designate must perform all disassembly work. The track must provide an adequate setting for the post-race technical inspection. In the event that post-race inspection finds a participant to be outside the rules, another of the top four cars will be chose for inspection
- In the event that post-race inspection finds a participant to be outside the rules, another of the top four cars will be chosen for inspection. In the event, that all four impounded cars are found to be illegal, then the fifth-place car will be deemed the winner.
- The National Tech Director, QSAC Competition Committee Chairman, and the QSAC Co-Chairs will determine how far an engine will be tore down for inspection.
- **DISQUALIFICATION:** If a driver is disqualified from an event, the event that the disqualification occurred in, must be scored in that driver's series total and not used as a "drop".

## Drivers and Pit Crews

- Only drivers competing in the specific heat race or main event currently on the track are permitted on the drivers stand. Each driver is limited to one pit person in the hot pit area. A crew member may leave the hot pit area and enter the drivers stand to communicate with the driver for a maximum of three laps and a maximum of two occurrences during the specific heat race or main event.
- Inside the final ten laps of the heat race or main event, no crew member is allowed to enter the driver's stand, regardless of the circumstance.
- Two-way radio communication between a driver and crew is NOT permitted in any class.

## Un-Sportsmanlike Conduct

The following actions are considered un-sportsmanlike and will be dealt with in a manner consistent with the policies set forth below.

- Deliberate destructive action on the track during a practice session or race.
- Physical abuse of another competitor, pit person, or Race Official.
- Excessive and continuous verbal abuse of another competitor, pit person, or Race Official.
- District, Region, or Area Director are empowered to disqualify, at his/her discretion, any competitor guilty of one or more of these infractions. The incident shall be reported to the QSAC board, which will determine if further action should be taken. Depending upon the severity of the infraction, remedies including racing eligibility suspension and / or membership revocation could result.

## Protests

- In the event it becomes necessary, a competitor has the right to submit a protest. If a protest is submitted, it must clearly and specifically state what is being protested, referencing the applicable rule (s) being violated. Only those issues specifically protested will be inspected or investigated. In the event that a violation is inadvertently discovered during the inspection process that is not identified specifically by the submitted protest, it will be noted, however no penalty would be assessed.
- A protest fee of \$25.00 (cash) shall be applicable to each protest submitted. If the ruling is in favor of the protest, the fee will be returned to the protestor. If the ruling is unfavorable, the fee will be forfeited to the host club. In the event of an unfavorable ruling regarding the disassembly of a motor or carburetor, the fee will be forfeited to the protested competitor to offset the cost of re-assembly of his or her equipment.
- Only a driver in the specific heat race or main event in which the violation or infraction occurred may submit a protest. The written protest, including the cash fee, must be submitted to the Chairman of the Protest Committee, Race Director, or ranking QSAC official present, within ten minutes of the conclusion of the heat race or main event in question. If the specific protest may impact the competitors involved in the next scheduled heat race or main event, that heat race or main event shall be delayed until the protest is ruled on.
- In establishing the penalty for a favorable protest ruling, the nature and intent of the infraction and the degree of competitive advantage will be taken into consideration. Penalties may range from a warning to disqualification from the event. Protest rulings are considered final.

## BACKUP CAR, BODY, or ENGINE

- In the case of a competitor's car or body becoming irreparably (as judged by QSAC official) damaged during practice, a heat, or lower-main, a "substitute" car or body may be used to finish the event.
- In either, the case of a car and/or body being substituted, it should

be understood that should it make the "A" main, the "substituted" car and/or body will be subject to a combination pre/post-race technical inspection to insure its total compliance with the rules following the conclusion of the event.

- Any "substitute" car, body, and/or engine shall start at the rear of the next race it has qualified for.
- The source of the "substitute" car may be the competitor's spare, borrowed from a friend, or purchased on the spot.
- Substitute body and or engine must be impounded

## TRACK FUEL (12.13.13)

- All competitors will be required to use a pre-mixed, host-track provided fuel.
- The fuel specified is VP (brand) VP-110, C-16 or C-12, mixed with 1.5 ounces of AmsOil Saber 2-stroke oil per gallon. QSAC recommends that the host track buy fuel in 5-gallon containers. This will allow unused fuel to be sold in 5 gallon increments to participants after the racing event is completed.
- A fuel fee, paid at time of sign-up will be \$10.00 for all classes. Fuel fees may vary due to regional cost differences.
- Fuel distribution shall be the responsibility of the host track / club / promoters.
- Competitors will be able to fuel their cars only in the hot-pit, using fuel-bottles provided.
- QSAC fuel bottles are available by contacting the National Tech Director.

## SCORING TIE BREAKER RULE

- If the situation occurs that there is a N.C.S. point total tie in any class or finishing position, the following tie breaker (s) will be used in sequence until the tie is broken. (Please note that only the three races being scored in the overall series results are considered in the tie breaking process).
  1. The competitor with the most 1st place finishes would prevail.
  2. If the tie remains, the competitor with the most 2nd place finishes would prevail and so on until the tie is broken.
- If after consideration of the series race results, a tie remains, QSAC will default to the starting lineup based off of the heat race results for the scored "A" mains. (11.12.06)
  1. Mains (scored is defined as the three races used by each competitor for the series total).
  2. The competitor with the most "Pole" positions would prevail.
  3. If the tie remains, the person with the most 2nd place starts would prevail and so on until the tie is broken.
- If a tie still remains, dual awards will be issued by QSAC.

## RAIN OUT RULE (03.04.12)

1. If qualifying is done by Pill Draw, heat races must be completed before points can be awarded.
2. If no qualifying or heat races have been completed, the event is cancelled and all entrants will be awarded 5 participation points.
3. If only single car qualifying has been completed, points will be awarded based on qualifying results.
4. If only heat races are completed and NO mains are started, points will be awarded based on heat race results.
5. If the mains have started, those mains completed will be scored according to the results. If a main is red flagged prior to reaching the half way point, it will be scored as qualified for the main. If the main is beyond the half way point, it will be considered complete and scored based on the positions at the time of the red flag. If the remaining event is subsequently cancelled, all remaining mains will be scored as qualified.

## **“THE FINAL SHOWDOWN” FORMAT**

- The general format of the QSAC Showdown N.C.S. “The Final Showdown” Race follows the standard QSAC event formats and the District format except as noted below.
- The QSAC Showdown N.C.S. “The Final Showdown” Race will have Timed Qualifying Session on Friday at 11:30 AM and compete in three heat races (the first and second heat will be inverted. The third heat will be reshuffled).
- Friday night, after qualifying and the first three rounds of heat races are over, the BRP Showdown Dashes will begin. The class order will be Sprint Cars, Limited Sportsman, Sportsman, and ECM. The dashes will have eight (8) cars and will be 15 laps long. The top six cars eligible for the dash are the six (6) previous QSAC Showdown N.C.S. winners from each class, they will line up according to how they qualified for “The Final Showdown” race. The next three positions will be filled by the top three (3) qualifiers of “The Final Showdown” race. If one or more of the previous winners are not present, then we will fill the remaining position (s) with qualifiers 4 thru 8, if needed.
- The mains will be set by the three (3) rounds of heat races run on Friday.

## TECHNICAL COMPLIANCE RESPONSIBILITY

It is the responsibility of each driver to insure his/her Quarter-Stroke Race car is in total compliance with all applicable QSAC Rules. This means Safety, General and Technical Specifications as defined herein. It is important that each competitor read and understands all of the rules as they apply to safety, race format, driver-conduct, and technical specifications. Ignorance of the Rules is not a defense for violation of them. Failure to comply may result in immediate disqualification, loss of points for the event, and further action as deemed necessary by QSAC.

### GENERAL SPECIFICATIONS *(applies to all classes unless otherwise noted in the individual class specifications).*

1. The general specs contained herein shall be enforced for each class except where the class Technical Specifications conflict. In such case the class Technical Specifications shall take precedence.
2. All cars must meet the general specifications, the safety requirements and the technical specifications for its class. Modification (except engine) is permitted within the specifications but will be subject to review and approval by QSAC.
3. Situations may upon occasion arise that are not precisely covered in these rules or procedures. A ruling will be made by the ranking QSAC official present, consistent with previous rulings in situations of similar nature. The ranking QSAC official present shall make interpretations of rules and his/her rulings shall be considered final.

### ENGINE (11.8.12)

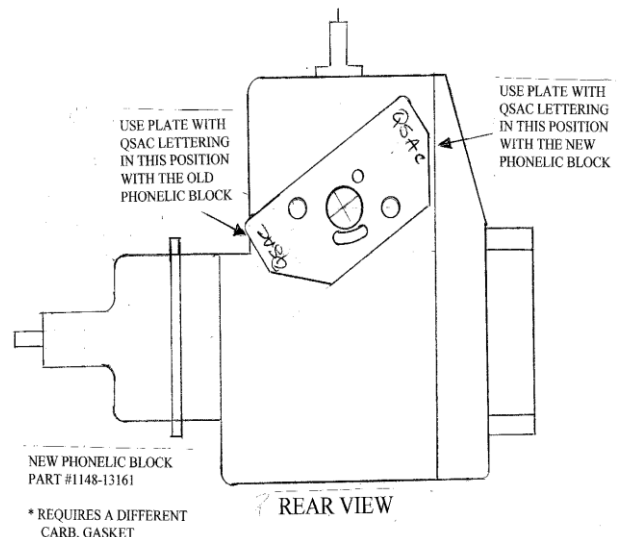
1. Only industrial type, 2-stroke, magneto ignition, 23cc maximum, air cooled, integral starting engines will be allowed. The use of any engine must be approved by the QSAC National Rules Committee 4 weeks before said engine may be raced in any QSAC sanctioned event. No rotary valve, reed valve, or non-integral cylinder head engines allowed.
2. To obtain approval, a minimum of 5 engines must be submitted to QSAC along with factory specifications and technical data pertaining to performance, as well as a supply of gaskets, etc. to facilitate disassembly for inspection and reassembly for testing.
3. Approved engines are as follows: Zenoah G-23RC/G230RC (2019-1-1)
4. There is no engine "Claiming" Rule.
5. Engine replacement parts other than those supplied by the original engine manufacturer will be considered as not-legal parts.
6. Since the supply of OEM crankshaft bearings is questionable, equivalent type bearings will be allowed. The replacement must be a completely metallic ball bearing, non-shielded or non-sealed. Absolutely no ceramic bearings. We strongly recommend the use of OEM crankshaft bearings and OEM crankshaft seals with springs.
7. Modifications - NONE - no removal or addition of parts or material from engine or from any part of component of engine whether or not performance is enhanced. Media blasting of any portion of the cylinder or internal engine components is not allowed for any purpose. The only exceptions are listed in the **ALLOWABLE ENGINE CHANGES** section on page 15. The exhaust, carburetor, and clutch are not considered part of the engine and will have their own set of rules. (2019-1-1)
8. All pre-manufactured gaskets made specifically for the Zenoah engines will be legal. Scratch built gaskets will NOT be legal. Exceptions are noted in item #9
9. On all engines, any type of gasket sealant, provided it can be easily removed during the tech inspection process without using tools to separate. Sealant may be applied to either or both sides of the gasket located between the cylinder and the phenolic intake block. In addition, on the G230RC engine only, gasket sealant may be applied to either or both sides of the gasket located between the cylinder and crankcase

## ALLOWABLE ENGINE CHANGES

*If it is not listed then it is illegal*

1. Rebuilding of engine for maintenance only, not blueprinting.
2. Modifications - **NONE**, unless listed.
3. No removal or addition of parts or material from engine or from any part of component of engine whether or not performance is enhanced. **NOTE: the inadvertent or unintentional removal of material on the underside of the crankcase shall NOT be considered a violation (example: scrape marks on the crankcase due to the engine scraping the ground). (2019-1-1)**
4. Engine replacement parts must be OEM supplied parts unless listed.
5. Bearing replacement must be equivalent type & size, completely metallic ball bearing, non-shielded, non-sealed.
6. Gaskets must be pre-manufactured specifically for the Zenoah engines, **No scratch made gaskets.**
7. Sealer is allowed **only** on the gasket between the Cylinder & Crankcase, & on the gasket between the Cylinder and Phenolic Block. The sealer must be removable and non-permanent type. **Parts must be able to be separated without the use of tools.**
8. Cylinder Bolts, (No Washers Allowed)
9. Carburetor (see page 16)
10. Carburetor bolts of any kind. (As long as they do not create an air leak)
11. Phenolic Block, old style G2D70 & newer style pn 1148-13161, and 1148-13162.
12. Restrictor Plate, QSAC approved 8.5mm or 10.5mm, class designated.
13. QSAC approved aluminum manifold & Teflon gaskets or QSC intake gasket and carburetor gaskets, 8.5mm or 10.5mm, class designated. (no other gaskets or sealer allowed) **(03.13.16)**
14. Velocity Stacks allowed in Sprint Car, ECM and Grand National.
15. Sportsman Cups are required in Limited Sportsman & Sportsman Classes
16. Air filter, any type
17. Outerwear's type filters
18. Spark Plug, up to 1/2" reach, retaining mfg. supplied crush washer (indexing allowed)
19. Exhaust, may be mounted either up or down. (See page 16)
20. Clutch (see page 16)
21. Stickers, Stock & Engine Builders
22. Broken / damaged Fan housing fins are acceptable.
23. Fan housing & engine mounting holes may be Heli-coiled for repair
24. Stock flywheel key must be installed without any modifications.
25. Non-permanent thread sealers may be used on any fastener.

**If you are unable to find your answer to a question on any part or allowable change contact: The National Tech Director or one of the Co-Chairs.**



## ENGINE TECHNICAL INSPECTION

The QSAC engine rules are written to mean absolutely no engine modification is permitted and includes specifically that the addition or removal of material is not allowed. The rule as written and currently enforced is one of the foundation blocks of QSAC and Quarter Scale Racing. The publication of this procedure is meant as a method for contestants to check their own engines for compliance to the rules. It is not meant as a guide for "blueprinting" an engine within the parameters. An engine found to be altered, even though it may measure legal, will be disqualified and the altered parts will be confiscated and destroyed.

To perform the procedure, a 2.00-inch stroke dial indicator and a spark plug hole adaptor will be needed. The carburetors, carburetor mounting block, exhaust system, and flywheel cover must be removed. All the measurements are based on the downward stroke of the piston from the top dead center as the flywheel is rotated counter-clockwise when viewed from the flywheel end of the engine. There are five measurements that, performed as instructed below, will determine:

1. Intake Port Timing - Full Open
2. Intake Port Timing - Start Open
3. Intake Port Timing - Maximum Port Window Size (height)
4. Exhaust Port Timing - Start Open
5. Crankshaft Stroke

### PROCEDURE:

#### INTAKE PORT - FULL OPEN

After finding top dead center and setting the dial indicator at zero, rotate the flywheel counter-clockwise until the piston skirt just enters the intake port at the top. Note the measurement and refer to the chart.

**IGNITION TIMING** - (G23-RC/G230RC) – Rotate the flywheel counterclockwise, the leading edge of the first magnet lines up with the back edge of the coil -- check alignment carefully-- read dial/refer to the chart.

#### INTAKE PORT -START OPEN

Rotate the flywheel counter clockwise till the piston skirt fully closes the intake port at the bottom. Refer to the chart.

#### INTAKE PORT- MAXIMUM PORT HEIGHT

The maximum intake port height (roof to floor) may not exceed .425 or less, as measured by subtracting the intake port - full open figure from the intake port - start open figure (.520 or less) Example .510 (IPSO) MINUS .095 (IPFP) = .415 PORT WINDOW SIZE  
Refer to chart.

#### EXHAUST PORT - START OPEN

Rotate the flywheel counter clockwise till the piston crown begins to open the exhaust port at the top. Refer to the chart.

#### CRANKSHAFT STROKE

Rotate the flywheel counter clockwise to bottom dead center. Refer to chart.

## EXHAUST (11.12.05)

1. All engines shall have chambered exhaust system that effectively reduce noise. No open exhaust or un-chambered open pipes are allowed. Any car deemed too loud by officials will not race until the problem is corrected. Maximum noise level is 85 DBA 30 feet from the track surface whenever a noise limit is in effect. Noise limits are imposed by local ordinance or at the discretion of the promoter. Certain classes require stock Zenoah Mufflers only. (See appropriate class specifications.)
2. All Classes must use Zenoah Mufflers p/n's T2070-15110, 1751-15101, 1148-15112
3. No spacers or extensions between cylinders exhaust port and muffler.
4. Only one exhaust gasket is permitted.
5. Muffler outlet may not be added to or internally or externally cut.
6. The spark arrester screen mounting tab may be removed.
7. Exhaust may be redirected by use of a piece of 1.00 inch (ID) or larger hose or tube.
8. Exhaust may be rotated

## CARBURETOR (11.22.07)

**NOTE:** All classes to run an 8.5 or 10.5 Restrictor / Adaptor plate. See class rules for further information. The plates will be mandatory at all QSAC sanctioned events for 2008 and beyond.

1. Only the Walbro WYK 32, 51, 194, are allowed.
2. Carburetor poppet-valve (needle/seat) may be adjusted, poppet-valve (spring) may be modified and adjusted, but no other modifications are permitted.
3. Note: It continues to be illegal to modify EITHER side of the Phenolic carburetor block, or to alter the size of the openings in the block.
4. QSAC Members and Manufacturers may purchase the plates from Mike Sadler for \$8.00 plus shipping. Since this is a mandated part, QSAC Members and Manufacturers will pay the same price.
5. QSAC approved Manifold: Current Members cost: \$20.00, Non-Members cost: \$30.00, plus shipping.

## TECH TOOLS (2019-1-1)

QSAC standardized measuring system for the restrictor plates and manifolds utilizes the following go/no-go tools:  
Vermont Gage Pins Class ZZ (+/- .005mm) 60 Rockwell Hardness, available through MSCdirect.com.

#### 8.5 Plate and Manifold:

Part # 88933304;.3330", or 8.4582mm (GO)  
Part # 88933502;.3350", or 8.509mm (NO-GO)

#### 10.5 Plate and Manifold:

Part # 88941208;.4120", or 10.4648mm (GO)  
Part # 88941406;.4140, or 10.5156mm (NO-GO)

Additionally, a double-ended gage handle is available for ease of use during the inspection process; Part # 82931809

Specifications	G-23RC/G230RC "A"	G-23RC/G230RC "B & C"
Intake-port, Full-open (IPFO)	.065 or more	.070 or more
Intake-port, Start-open (IPSO)	.480 or less	.520 or less
Maximum port-Window size	.408 or less	.425 or less
Exhaust-port Start-open (EPSO)	.655 or more	.650 or more
Maximum Stroke	1.105 or less	1.105 or less
Maximum Timing	Open	Open

Engines must be as manufactured, no mixing of components. The G-23RC / G230RC (versions A, B & C) have interchangeable parts. Each version will have its own set of specifications and will be checked accordingly. Example: Version A engine with a version B cylinder will be teched as a version B engine. If your engine has version B parts it will be teched as a version B engine. If you have any questions please contact the National Tech Director or the Co-Chairs.



**CLUTCH (03.04.12)**

All classes: Clutches must maintain a standard two-shoe, single-spring, centrifugal configuration, with no external adjustment capability. Clutch arbor and bolts/washers may not be removed, modified or lightened. The clutch housing may be lightened or modified for cooling, servo mounting, clutch disassembly, etc. Grand National, Super Truck, Super Late Model, & Sprint Classes may use steel or aluminum clutch shoes and shoes may be lightened. Aftermarket clutch springs are allowed. Clutches for all Sportsman Classes must remain entirely stock including spring and shoes

**FUEL (11.22.07)**

1. The fuel specified is VP (brand) VP-110, C-16 or C-12, mixed with 1.5 ounces of Amsoil Saber 2-stroke oil per gallon.
2. Fuel additives are strictly prohibited except lubricant.
3. The use of methyl alcohol/methanol is not allowed.

**FUEL SYSTEM (11.12.05)**

1. All classes will use a maximum 8 oz. capacity fuel tank.
2. All classes are limited to a maximum of 60-inch total fuel line length which includes a maximum of two fuel filters, fill, feed, return and vent lines. Tubing located inside the primary fuel tank is excluded.
3. The fuel system must be filled and vented on the right side of the car. The car must be fill on the right side due to safety issues and vented on the right side to allow overflow fuel to be discharged toward the pit wall. **(12.19.10)**
4. As an option, a maximum 2oz catch tank may be installed on the primary tank vent line. The catch tank may not have a fuel pick up mechanism.
5. All fuel lines and filler lines must be .125-inch maximum ID.
6. Only one vent line and one filler line permitted.
7. Refilling bottle shall be a 1-quart maximum size. Manual pressurizing only during refilling.

**CAR NUMBERS**

1. Each car shall be clearly numbered and visible from the scoring stand. Numbers must appear on both sides of the car, except when special scoring numbers are used. Car numbers placed on wings must have additional identification should the wings become detached while racing.
2. Minimum number size is 3.00 inches on the wing and 2.00 inches on the tail tank for open wheel cars. 4.00 inches for full-bodied cars and trucks.

**CHASSIS (11.12.05)**

1. No shifting or variable speed drive trains permitted.
2. All cars must have 4-wheel suspension.
3. Engines must be mounted with either the spark plug or crankcase centerline on the car longitudinal centerline of the chassis' main rails with a tolerance of plus or minus .50 inch. Main rails are defined as the major symmetrical load carrying longitudinal frame members, and do not include "side pods" used for body mounts.
4. Differentials permitted in all classes.
5. Two-wheel drive (rear) only.
6. Basic frames must be symmetrical in design.
7. Mainframe rails should be mirror image left to right with minor deviations for component clearance allowed.
8. Suspension components may be modified in material to achieve lighter weight and/or greater strength.
9. No cantilever suspension allowed.
10. Cars must maintain a 50% - 50% weight bias plus or minus a 10% total spread. Thus, the maximum bias left to right is 55% - 45%

**MISCELLANIOUS (11.12.06)**

1. No electric or electronic device may be used in any class unless specified in the Technical Specifications for that class. Examples: rate gyros, moveable ballast, any electronic or electrical adjustment device other than one or two steering and one or two throttle / brake servos.
2. One battery powered tool per pit position is permitted for changing of tires, etc., during a race.
3. On-board tachometers are permitted in all classes.
4. Onboard telemetry is NOT permitted in any class.
5. Kill Switches are permitted in any class
6. Drilling the clutch bell housing is allowed for heat reduction or shoe removal.

**IMPACT PARTS (11.12.05)**

Impact Parts are defined as parts or components that are uniquely critical to the competitive operation of a quarter scale race car. They are further defined as items where significant technical developments and/or enhancements might possibly render the previous version of the part or component obsolete or noncompetitive or represents an excessive cost versus benefit to the racer.

The current list of IMPACT PARTS includes, but is not limited to, engines, carburetors, clutches, clutch bells and components, brakes and components, shock absorbers, tires, hosts and bands and bodies. Parts or components are required to be readily available to all QSAC members.

**Impact Parts Approval Process:**

Manufacturers are required to submit a formal written request along with parts or components that fall into this category, to the Impact Parts Committee Chairman or Co-Chairs for review and disposition as to the legality for competition under QSAC rules.

New parts or components that have been designated as impact parts are allowed to be submitted for review and disposition at any point during the calendar year. However, parts submitted for review and disposition after September 30<sup>th</sup> of the calendar year will not be taken into consideration until after January 1st of the following calendar year.

Upon receipt of a part for review and disposition by the Impact Parts Committee, the committee will have a maximum of two weeks (14 calendar days) to provide a formal response to the Co-Chairs regarding their evaluation and recommendation.

A reviewed and approved Impact Part will be eligible for QSAC sanctioned competition 90 days after the formal announcement of approval and being readily available through the manufacturer. QSAC will announce approval of this process through [www.qsac.org](http://www.qsac.org)

**GENERAL SHOCK/DAMPER DESIGN RULES (2019-1-1):**

1. Material(s): Any material may be used in the construction of any part of the shock (shaft, seal, seal-retainer [cartridge], body, cap, piston, or volume compensation bladder).
2. The piston must be one, single piece in design. NOTE: this does not include an O-ring if the piston is guided by an O-ring inside the shock body.
  - 2a. Pistons may be of any shape; they may have a different shape/contour on either side; they are not required to be symmetrical in design.
  - 2b. Pistons may be blank (no holes), or have as many or as few holes as desired.
3. The piston must not move on the shaft with the exception of rotationally around the shaft. Example: a piston that is retained by an e-clip or snap-ring may allow the piston to rotate around the shaft.
4. No externally adjustments to damping are allowed. NOTE: this is intended that an operator would need to disassemble the shock to change the damping fluid to a different weight or make a change to a different piston.
5. No internal or external adjustable valve is allowed.
6. No internally adjustable damping change is allowed. NOTE: this is intended that there are no moving parts within the shock other than the shaft and the piston. E.G. no flappers or other items that will alter the compression or rebound damping rate of the shock.
7. No external reservoirs; all fluid or air must be contained within the main shock body or shock cap.
8. The use of internal springs is prohibited (E.G. a spring inside the shock body, either on the shaft side or the non-shaft side of the piston, to assist in compression or rebound).
9. Bleed holes in the cap are allowed.
  - 9a. Volume compensating bladders are allowed in the cap.
10. Fundamentally, the shock should be of one of the following designs:
  - 10a. Pass-through type pistons (Bullseye Invader Shocks, WCM DRX Shocks)
  - 10b. Blow-by type pistons (Original WCM Shocks, Dynashox, TNT)
  - 10c. Center-flow type pistons (JR Quarterscale)
  - 10d. A combination of any of the first three (HADA Shocks, E.G. a blow-by piston that includes pass-through holes)

**NOTE: these shock/damper rules apply to all classes.**

### **TIRES AND WHEELS (11.12.05)**

1. Wheels and tires may be substituted and modified within the specific class requirements.
2. Maximum wheel width 3.00 inches, maximum diameter 4.00 inches (at the bead).
3. Wheels must be scale appearing with a maximum offset of 1.00 inch.
4. Wheel knockoffs are not allowed with the exception of the open wheel classes.
5. All wheels must have minimum 2 lugs.
6. All classes shall use tire configurations as follows: A molded foam host mounted on an approved wheel and shall have a rubber outer band or cap. Spikes are allowed for dirt tracks only.
7. No tire cleaners or tire traction treatments permitted. Tires may not be cleaned with any liquid or foam of any kind.
8. Track preparation to improve traction is permitted.
9. Tire circumference (roll-out) is measured as an average of the center and outside edge measurements. This measurement shall be 22.00" maximum and 17.00" minimum (LF, RF, RR) and 16.75" minimum (LR).
10. Maximum tread width is 3.25 inches, with a minimum tread width of 2.75 inches, and 3.75 inches maximum sidewall width.
11. Competitors in **all classes** must utilize the QSAC approved right front tire-bands on the competitor's choice of host.
12. Right front tire bands will have a unique (molded into the band) identifier to designate it is an "Approved" tire band.
13. Approved compounds as submitted by the manufacturers with suggested corner locations are as follows:

#### **Bishop Racing Products (BRP)**

- Left Front/Left Rear = L10, L20, L30
- Right Rear = 410, 405, 407, C-4. And C-5
- Right Front = 96, 96Z or Dual Band **(12.31.13)**

#### **WCM Diamondback**

- Left Front/Left Rear = RZ2, ZR, XZR
- Right Rear = M3, M4, Signature
- Right Front = A or B

#### **RC4Less (01.15.16)**

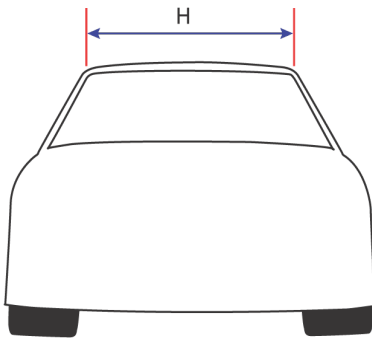
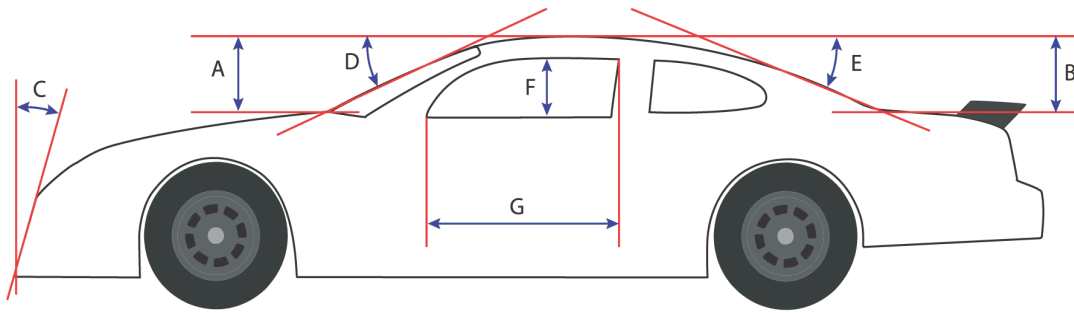
- Left Front/Rear = marked with White dot & "L" **(01.15.16)**
- Right Rear = Marked with either a Yellow or Pink dot & "RR" **(01.15.16)**
- Right Front = Marked with either a Red or Blue dot & "RF" **(01.15.16)**

The above are the ONLY allowable compounds permitted and can ONLY be run where designated (Example: Approved Right Rear compounds on Right Rear Only.) **(11.22.07)**

14. No mixing of Brands/Manufacturers of tires allowed. This is to say that all four tires being ran in competition must be from the same manufacturer. **(01.15.16)**

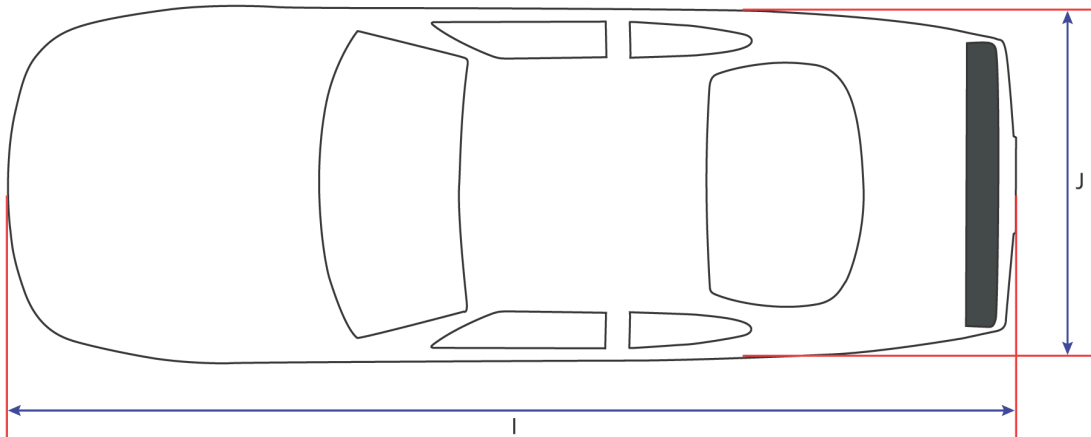
**ATTENTION POTENTIAL BODY MANUFACTURERS**

If you intend to manufacture a "new" Quarter Scale Race Body (Car or Truck) it is strongly recommended that you contact the QSAC Impact Parts Committee *BEFORE* you begin the project, to insure the final product will be within acceptable parameters for approval for QSAC Competition.



**Stock Car Body Dimensions:**

- A: Roof height Measured at base of windshield. A+B minimum of 5.50"
- B: Roof height Measured at base of rear window. A+B minimum of 5.50"
- C: Angle of front lower air dam. Maximum of 25 degrees from vertical
- D: Angle of windshield measured at center. Minimum angle of 22 degrees.
- E: Angle of rear window measured at center. Minimum angle of 15 degrees
- F: Height of side windows. "Recommended" minimum of 3.312"
- G: Length of side windows. "Recommended" Minimum of 8.00"
- H: width of roof. Minimum of 11.25"
- I: Overall length: 44.00-49.00"
- J: Overall width: 17.50-19.50"



<b>Super Truck</b>
A: 3.25"
B: 4.00"
C: 15 degrees
D: 35 degrees
E: 60 degrees
F: 3.75"
G: 7.50"
H: 12.75"
I: 44.00-49.00"
J: 17.50-19.50"

<b>Super Late Model</b>
A: 3.375"
B: 3.375"
C: 20 degrees
D: 38 degrees
E: 25 degrees
F: 3.0" Left window 4.0" Right window
G: 4.3125"
H: 9.625"
I: 44.00-49.00"
J: 17.50-19.50"

## TECHNICAL SPECIFICATIONS

### GRAND NATIONAL STOCK CARS

- Minimum Height 10.50 inches
- Overall length 44.00 - 49.00 inches
- Wheelbase 25.00 - 27.00 inches
- Overall width\* 17.50 - 19.50 inches
- Track Width\*\* 16.50 - 19.25 inches
- Weight 30 pounds - minimum

\* Overall width is measured at the car's widest point

\*\* Track width is defined as "outside of tires". Track width differential front to rear may not exceed 1.50 inches at any time.

**Unless otherwise listed below, all other specifications from the General Specifications apply.**

#### BODIES (3.4.12)

1. Cars and Trucks must run QSAC approved bodies. All bodies must be attractively painted and maintain a scale appearance.
2. Cars must have windshields front and rear either as cutouts replaced with another solid plastic material or as outlines painted as windows with a contrasting color.
3. No lightening or ventilating of the body except as in the car's full-size counterpart (grill opening, windshield cowl, etc.). No holes allowed in the rear of the body.
4. Wheel openings must be full cutouts.
5. No underbody ground effects.
6. Roof rails, allowed as molded-in by body manufacturers, may not exceed .25 inches in height.
7. Belly-pans limited to 208 square inches. No full width belly-pan extensions past the front or rear axle line. **(11.22.07)**
8. Add on rear spoilers may not extend more than 3" in any direction from the factory deck as measured at the back edge of the rear deck. Spoiler may be of any material, but all edges must be rounded and smooth. The spoiler must be mounted on the rear of the body (just like the full-scale version) not on top of the rear deck.
9. No bends or lips on the top or ends of the spoiler allowed. (Also, applicable to Sportsman, Limited Sportsman Stock-car).
10. Body's rear bumper flange may not be trimmed to less than 1" from the molded bumper as measured from the inside of the flange.
11. The top surface of the front and rear bumpers must be at or above the wheel centerline.
12. Foam bumpers (front and rear) are mandatory and must maintain a minimum of .25-inch ground clearance during full compression of the suspension. The top surface of the front and rear bumpers must be at or above the wheel centerline. The outside perimeter of both bumpers must be within .50" of body. **(11.22.07)**
13. Engine exhaust may be routed through a single 1.25 square inch cutout, located in the side of the body between the front and rear tires and below the centerline of the front and rear axles. The cutout must not interfere with the cars side number (s). No exhaust ductwork shall extend beyond the body. **(11.12.06)**

### CHASSIS (11.12.05)

1. Cars must have independent A-Arm type front suspension.
2. A-Arm mounting points must be equal distance from the chassis centerline.
3. Lower control arms must be of equal length (plus or minus .125 inch) as measured from the centerline of the inner mounting point to the centerline of the ball-joint. There is a tolerance of .125 inch for each lower control arm that is to mean that the overall difference between the left and right lower control arms is .250 inch.

### ENGINE (3.4.12)

1. Engine Zenoah G23RC/G230RC (versions A, B & C) are allowed.

#### CARBURETOR (3.4.12)

The Walbro WYK Series (32, 51, and 194) carburetors are allowed; must use a 10.5 QSAC Plate or QSAC Manifold, two gaskets, and no sealant. See Page 16. The QSAC Plate or QSAC Manifold is mandatory.

#### TIRES

Tires must fit within the car's body.

#### FUEL

Gasoline only

## TECHNICAL SPECIFICATIONS

### SPORTSMAN STOCK CARS

- Minimum Height 10.50 inches
- Overall length 44.00 - 49.00 inches
- Wheelbase 25.00 - 27.00 inches
- Overall width\* 17.50 - 19.50 inches
- Track Width\*\* 16.50 - 19.25 inches
- Weight 30 pounds - minimum

\* Overall width is measured at the car's widest point

\*\* Track width is defined as "outside of tires". Track width differential front to rear may not exceed 1.50 inches at any time.

**Unless otherwise listed below, all other specifications from the Grand National and General Specifications apply.**

#### ENGINE, FILTER, VELOCITY STACK (11.12.05)

G-23RC/G230RC (A, B & C) engines with the QSAC approved air filter adapter (replaces the velocity stack) allowed -**or**- the stock OEM Zenoah air filter and housing.

#### CARBURETOR PLATE/MANIFOLD (3.4.12)

Must use an 8.5 QSAC Plate or QSAC Manifold, two gaskets, and no sealant. See Page 16. The QSAC Plate or QSAC Manifold is mandatory.

### TECHNICAL SPECIFICATIONS

#### LIMITED SPORTSMAN CLASS (3.4.12)

- · Minimum Height 10.50 inches
- · Overall length 44.00 - 49.00 inches
- · Wheelbase 25.00 - 27.00 inches
- · Overall width\* 17.50 - 19.50 inches
- · Track Width\*\* 16.50 - 19.25 inches
- · Weight 30 pounds - minimum

\* Overall width is measured at the car's widest point

\*\* Track width is defined as "outside of tires". Track width differential front to rear may not exceed 1.50 inches at any time.

**Unless otherwise listed below, all other specifications from the Grand National, Sportsman, and General Specifications apply.**

- Competitors in the Limited Sportsman class may not participate in any other class while remaining a Limited Sportsman. Further, once leaving the Limited Sportsman class to progress to a "Pro class", he / she may not return to Limited Sportsman class unless approved by the QSAC Area, Region, or District Director, and his "home track" or club.
- Spoiler must be 5" minimum height. (2019-1-1)
- Spoiler to be at an angle of 90 degrees to 95 degrees, leaning toward the rear of the car, measured relative to the deck lid. (2019-1-1)
- Spoiler must be made of Lexan (or generic equivalent), and must be a minimum of .060" thick. (2019-1-1)

### TECHNICAL SPECIFICATIONS

#### SUPER-TRUCK (3.4.12)

- Minimum Height 11.75 inches
- Overall length 44.00 - 49.00 inches
- Wheelbase 25.00 - 27.00 inches
- Overall width\* 17.5 0 - 19.50 inches
- Track Width 16.50 - 19.50 inches
- Weight 30 pounds - minimum

\* Overall width is measured at the car's widest point

**Unless otherwise listed below, all other specifications from the Grand National and General Specifications apply.**

1. Trucks must appear as current NASCAR Super-Trucks, must be attractively painted and maintain a scale appearance.
2. Trucks may use the Super-Truck body approved for use by QSAC.
3. Must have windshields front and rear either as cutouts replaced with another solid plastic material or as outlines painted as windows with a contrasting color.
4. Maximum spoiler is 3.00 inch measured in any direction from top of rear deck, any material, but corners must be rounded and smooth with no sharp edges. The spoiler must have the molded lip facing away from the body but still cannot be more than 3 inches tall.
5. On certain chassis, roll bar and/or spark plug interference prevents seating the Super-Truck body properly on the front and rear bumpers. To alleviate this interference, it is permissible to cut out the body, using Slot-type reliefs for roll bars and a rear-window/deck cut-out for the sparkplug. In both cases, such cuts must be kept to an absolute minimum. If, during pre-race tech, cutouts are deemed to be excessive, the competitor may be required to temporarily fill part of the cutout using duct-tape or other material.
6. Engine must conform to the Stock Car and General specifications.

### TECHNICAL SPECIFICATIONS

#### East Coast Modified (ECM) (12.13.13)

- Overall length 44.0 - 49.0 inches
- Wheelbase 25.0 – 27.0 inches
- Overall width\* 17.5 – 19.5 inches
- Track Width\*\* 16.5 – 19.25 inches
- Weight\*\*\* 28 pounds - minimum

\* Overall width is measured at the outside of Nerf Bars

\*\* Track width is defined as "outside of tires". Track width differential front to rear may not exceed 1.50 inches at any time.

\*\*\* Before and after race

**Unless otherwise listed below, all other specifications from the Grand National and General Specifications apply.**

#### East Coast Modified (ECM)

1. Cars must resemble an ECM. (No front fenders. No chopped down Stock Car bodies. No front wings, top wings, side dams or roof rails)
2. Independent front suspension only. (No straight axles)
3. Rear straight axle or independent suspension allowed.
4. Tube style front bumper, diameter not to be greater than the frame rails or extend past to front frame width by more than one (1) inch on either side. The front tube bumper may not extend more than three (3) inches past the front of the main frame rail.
5. Foam rear bumper (saves from tearing up front tires on tube rear bumpers) not to extend outside the width of the rear wheels by more than ½ inch. Maximum rear bumper foam thickness is two (2) inches, minimum is one and one-half (1-1/2) inches.
6. Tube style Nerf Bars, diameter not to exceed the main frame rails. Nerf Bars may not extend past the outside of the wheels more than ½ inch.
7. The ECM Class is a 10.5 class. Either a 10.5 QSAC Blue plate with an approved manifold block or the QSAC blue 10.5 manifold are mandatory. Velocity stacks are allowed.
8. Tires. QSAC Stock Car General Rules
9. Fuel system. QSAC General Rules
10. Body Height. Ten (10) inches minimum.
11. Exhaust systems may be mounted outside the car's frame but within the length, width and height of the car.
12. Minimum right rear tire circumference of 17.00 inches before and after race.
13. Engine and muffler must conform to the stock car and general specifications.
14. Use the same carburetor and mandatory restrictor / adaptor plates as the Grand National technical specifications. (12.13.13)

**These are the MAXIMUM square inches (width x length) for these four body panels.**

Body Measurements:

To accommodate all chassis', the body can be altered but must stay within the square inch rule on the four main body panels.

Maximum roof deck is 156 total square inches.

Maximum rear deck is 87 square inches.

Spoiler 3" Maximum Height (measured from the deck), Maximum of 36 sq. in. Width NOT to exceed outside of body.

#### Windshield Square Inches/Opening:

Windshield cannot exceed 61 sq.in. of surface, painted or not. Anything over 61 sq.in. must be removed from right side only. Left Side must be closed. The two side windows must remain open.

Center of front wheels to the base of the front windshield 8" (+/- ½").

#### Body angles:

Front Nose -- 40 degrees (+/- 5 degrees) **Front nose panel must not exceed width of front frame rails by more than ¼"**

Windshield – 25 Degrees (+/- 5 degrees)

# TECHNICAL SPECIFICATIONS: SPRINT CAR

## CHASSIS

Car must resemble a "World of Outlaws" or "USAC" Sprint Car and meet all dimensional specifications as shown below:

## WEIGHT:

22 pounds minimum (empty fuel tank).

## SUSPENSION & DRIVETRAIN

All cars must be straight axle, front and rear. A solid 1-piece rear axle from hub to hub. Only exclusion being if the differential or one-way bearing rule is being followed. No Camber allowed. This is to mean no independent suspension.

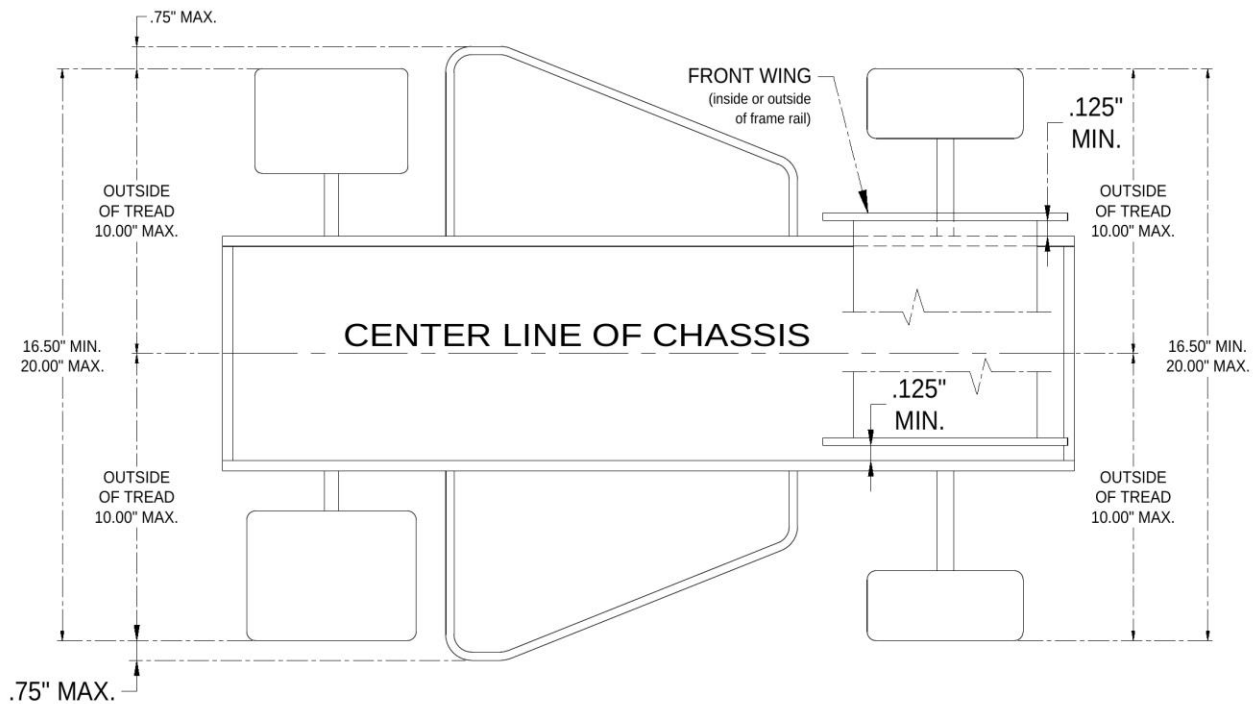
Suspension may be Coil Over and/or Torsion Bar.

Maximum of (4) shock absorbers.

Rear End Differentials (ball diffs, floater hubs) are allowed but not required.

Quick Change Gear Rear Ends (Skellenger, New Era, etc.) are allowed but not required.

## TRACK WIDTH





## BODY & WINGS

**NOTE: The following rules apply to both asphalt and dirt Sprint Cars.**

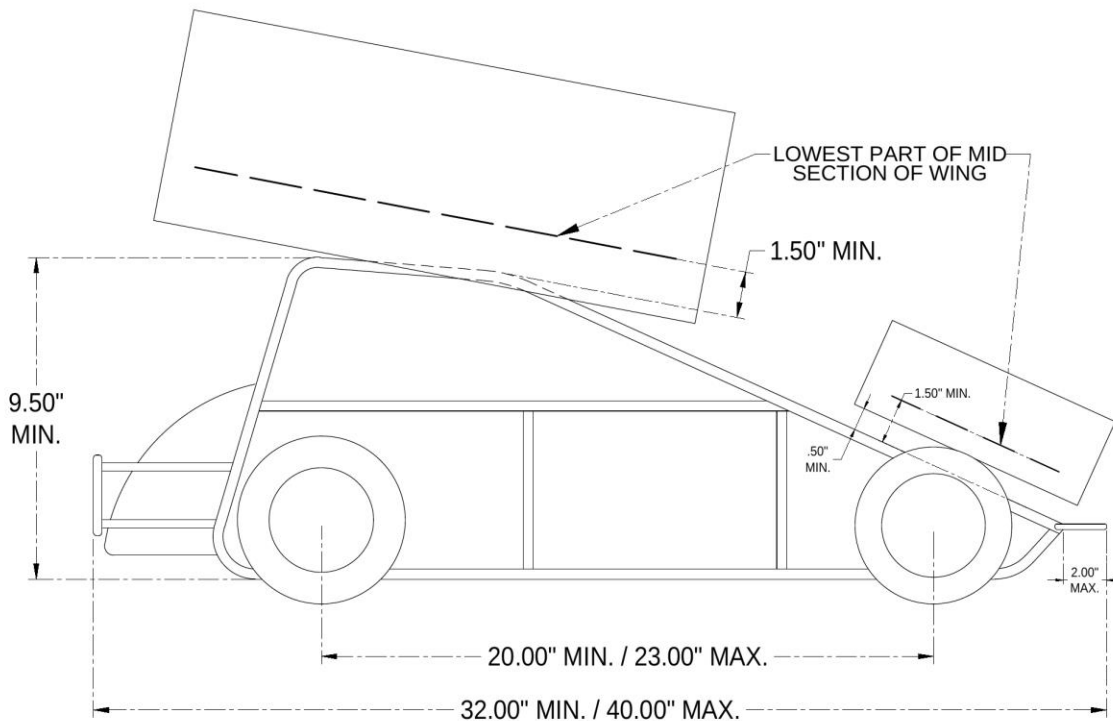
A scale appearing hood, tail tank, and top wing are required. Front wing is optional.

No side foils, rudders, or panels are to extend beyond rear cage support bars.

Wings may be constructed of any material but must be flexible with no sharp edges.

Wings must meet all dimensional specifications as shown below:

## HEIGHT - WHEELBASE - LENGTH

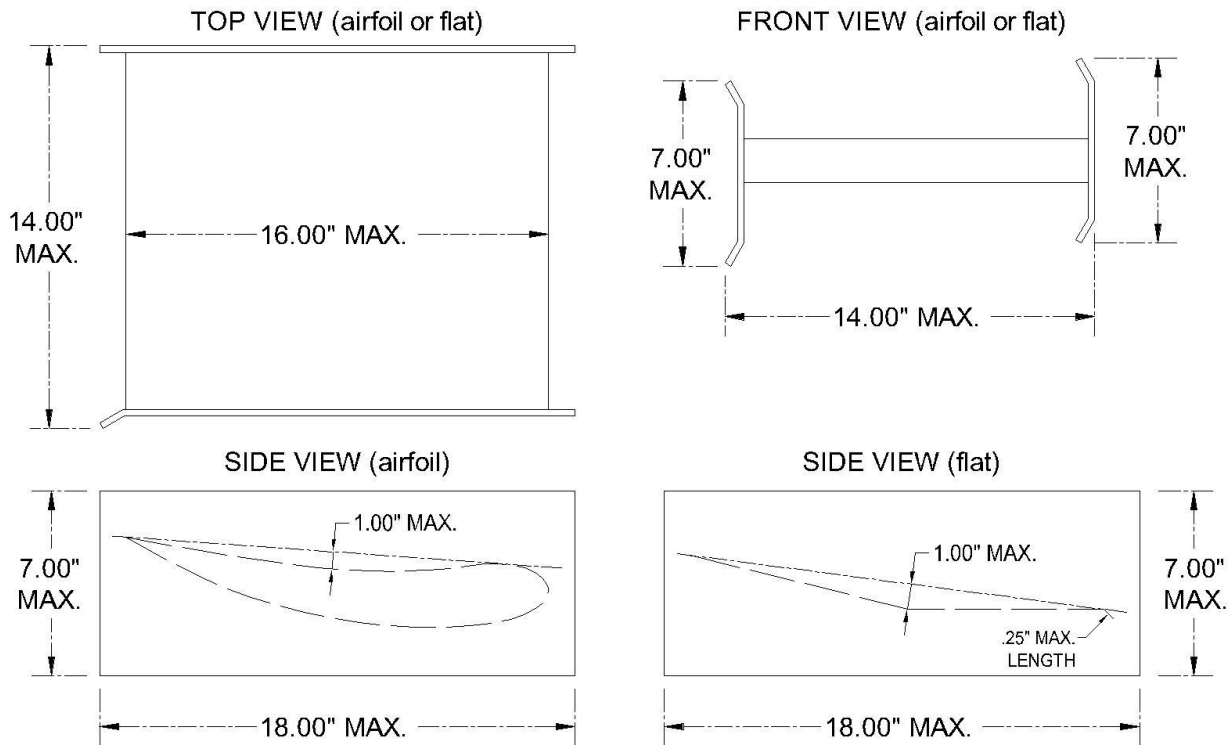


## TOP WING

The top wing may be an Airfoil style wing. The air foil wing may not have a curve that causes the distance from the front of the wing to the rear of the wing to have a gap at the widest point of more than 1.00" (see diagram below) The lowest point of the midsection of the wing must have a minimum of 1.50" gap from the top frame rail. *For dirt track sprint cars, the overall measurements for the top wing MAY BE up to 15" max x 15" max.*

The top wing may be a flat/Lexan style wing with only ONE main bend in it. The flat/Lexan wing may not have a bend that causes the distance from the front of the wing to the rear of the wing to have a gap at the widest point of more than 1.00". The flat/Lexan style wing may have a downward bend on the leading edge for strength, the bend may not be more than .25" back from the leading edge of wing. The lowest point of the midsection of the wing must have a minimum of 1.50" gap from the top frame rail. *For dirt track sprint cars, the overall measurements for the top wing MAY BE up to 15" max x 15" max. NOTE: an additional strengthening bend of a .25" at the front of the wing is considered in overall length, but should NOT be included for the measurement of overall 1.50" gap; please refer to diagram below for visual clarification.*

## TOP WING

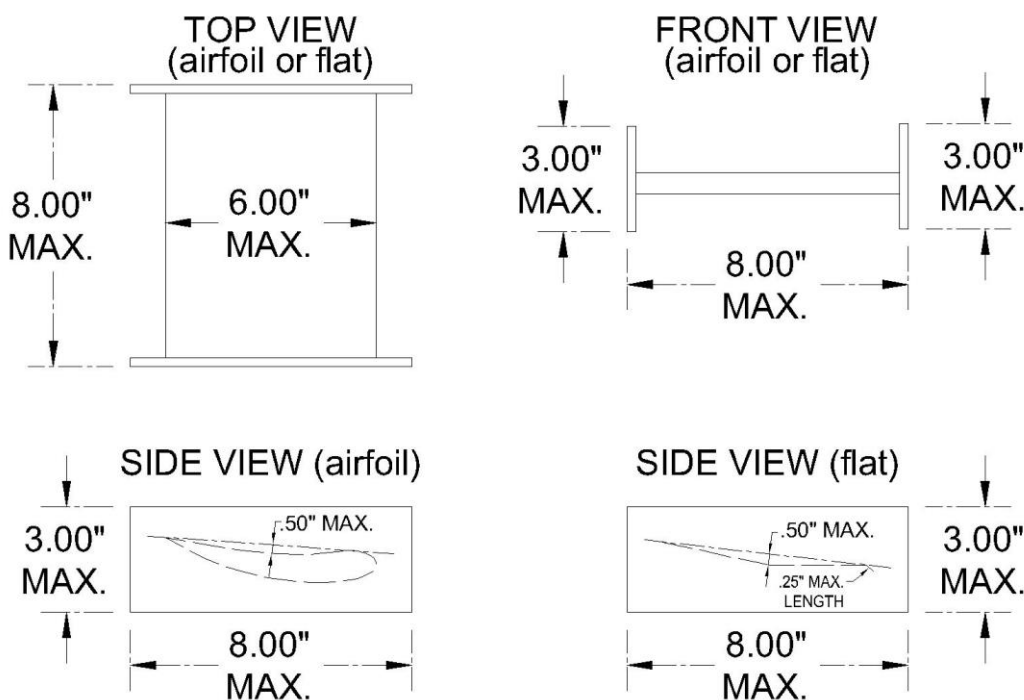


## FRONT WING

The front wing may be an Airfoil style wing. The air foil wing may not have a curve that causes the distance from the front of the wing to the rear of the wing to have a gap at the widest point of more than .50". The front wing side boards must have a separation from the body side panels a min .125" inside or outside of frame rails. (Meaning the wing must be wider or skinnier than the frame rails) The front wing may be angled, as long as the bottom of the side boards are a minimum of .50" from the frame rails or body, whichever is closest. The lowest part of the midsection of the front wing must be mounted at least 1.50" from chassis/body.

The front wing may be a flat/Lexan style wing with only ONE main bend in it. The flat/Lexan wing may not have a bend that causes the distance from the front of the wing to the rear of the wing to have a gap at the widest point of more than .50". The flat/Lexan style wing may have a downward bend on the leading edge for strength, the bend may not be more than .25" back from the leading edge of wing. The front wing must have a separation from the body side panels a min .125" inch inside or outside of the frame rails. (Meaning the wing must be wider or skinnier than the frame rails) The front wing may be angled, as long as the bottom of the side boards are a minimum of .50" from the frame rails or body, whichever is closest. The lowest part of the midsection of the front wing must be mounted at least 1.5" from chassis/body. *NOTE: an additional strengthening bend of a .25" at the front of the wing is considered in overall length, but should NOT be included for the measurement of overall .50" gap; please refer to diagram below for visual clarification.*

## FRONT WING



## WICKER BILL

A Wicker Bill is allowed on both top and front wings but must be separate from the wing and detachable via tape or bolts. Wickers may be constructed from any material as long as it is at a 90° angle not to exceed .50" in any direction as measured from the outside of the angle. Wickers are to be mounted on top of the wing flush with the trailing edge and maintain a 90° angle relative to the trailing edge of the wing. The Wicker Bill is NOT to be included in the overall 1.00" dimension on the top wing, nor the .50" dimension on the front wing.

## BODY

The body side panels may not exceed .250" past any part of the outside parameter of the chassis. This also includes any bends that may extend past the chassis or away from the sides. The only exception would be the addition of a belt/gear guard for dirt track racing only.

No additional air dams/diffusers or various aerodynamic devices allowed that don't follow the above wing and side panel rules.

The existing SRP Vacuum Formed side panels are allowed.

## FRONT NOSE PIECE

A Front Nose Piece may be used. The Nose piece may only have one bend in it, in the downward direction, the sides may be bent down to stay within the chassis side rails. The nose piece may not extend more than 2.00" past the front of the chassis, same as the front bumper. (meaning nothing more than 2" in front of chassis) The front nose piece cannot be integrated in any way with the front wing.

## **BUMPERS AND NERF BARS**

Nerf Bars are required on both the left and right side of the car and must be scale appearing. Nerf Bars may extend up to .75" past the outside edge of tires.

Front Bumper is recommended but not required. If used; must be scale appearing, not to exceed the width of the main frame rails, and not to extend more than 2" from the front of the main frame.

Rear Bumper is required and must be scale appearing.

If during a race the bumpers or nerf bars are damaged in an accident to the point of being a hazard to other competitors, the parts can be removed to finish the race but must be on the car as required to start the race.

## **CAR NUMBERS**

Car numbers must appear on outside of the top wing sideboards and both sides of the tail tank. Numbers must be a minimum of 3" high and clearly visible from the scoring stand during races.

## **SCORING TRANSPONDERS**

Scoring transponders (personal or track transponder) must be mounted behind the center line of the front axle.

## **ENGINE**

Must conform to all ENGINE requirements under the QSAC GENERAL SPECIFICATIONS.

Allowed Engines: Zenoah G23RC/G230RC (versions A, B & C)

## **EXHAUST**

Must conform to all EXHAUST requirements under the QSAC GENERAL SPECIFICATIONS.

Stock Zenoah Mufflers only. Tuned expansion chamber exhaust systems, "pipes", etc. are NOT allowed.

Exhaust may be redirected by use of a piece of 1.00 inch (ID) or larger hose or tube. Hose or tube that extends past the outside perimeter of the basic chassis must be located below the top main chassis rail (not the roll cage), within the perimeter of the right and left side nerf bar, and must not extend past the rear axle. Body panels that extend down the bottom frame rail can be trimmed to accommodate exhaust systems clearance.

## **CARBURETOR PLATE/MANIFOLD**

Must conform to all CARBURETOR requirements under the QSAC GENERAL SPECIFICATIONS.

Must use a 10.5 QSAC Plate or QSAC Manifold, two gaskets, and no sealant. See Page 16. The QSAC Plate or QSAC Manifold is mandatory.

## **CLUTCH**

Must conform to all CLUTCH requirements under the QSAC GENERAL SPECIFICATIONS.

## **FUEL**

Gasoline only per QSAC GENERAL SPECIFICATIONS.

## **FUEL SYSTEM**

Maximum 8 oz. capacity fuel tank and will be mounted within the perimeter of the main frame rails.

All fuel lines and filler lines must be .125" inch maximum ID.

Maximum fuel line length of 60 inches which includes a maximum of two fuel filters, fill, feed, return and vent lines. Tubing located inside the fuel tank is excluded from this measurement.

## **WHEELS / RIMS**

All wheels / rims must be scale appearing.

Wheel Diameter (measured at the bead):

All wheels must be 3.50" minimum / 4.00" maximum diameter

Wheel Width (measured at the bead):

Left Front: 2.00" minimum / 2.75" maximum width

Right Front: 2.00" minimum / 2.75" maximum width

Left Rear: 2.50" minimum / 3.00" maximum width

Right Rear: 3.00" minimum / 4.00" maximum width

Minimum 2 lugs per wheel.

Knockoff style wheels and hubs are allowed but not required.

## **TIRES**

Sprint Cars must use the QSAC approved right front tire-bands. Approved compounds for all tires are the same as the Stock Car and Super Truck classes as described in the TIRES AND WHEELS requirements under the QSAC GENERAL SPECIFICATIONS.

Spike tires are allowed for dirt use only.

Sidewall / Host Width:

Left Front Host: 2.00" minimum / 3.250" maximum width

Right Front Host: 2.00" minimum / 3.250" maximum width

Left Rear Host: 2.50" minimum / 3.75" maximum width

Right Rear Host: 3.00" minimum / 4.750" maximum width

Tread / Band Width:

Left Front: 2.00" minimum / 2.75" maximum width

Right Front: 2.00" minimum / 2.75" maximum width

Left Rear: 2.50" minimum / 3.25" maximum width

Right Rear: 3.00" minimum / 4.00" maximum width

Tire Circumference:

The Right Rear tire must have a minimum circumference (rollout) of 17" before and after race. All other tires have no minimum circumference.

**Unless otherwise listed, all requirements from the QSAC GENERAL SPECIFICATIONS apply.**

Listing of Rules Changes:

Date	Page	Change	Reason(s)
6-9-2013	Table of Contents	Changes to Rulebook Listing	Addition
6-9-2013	3	Venue for Dirt Oval Nats	Track Closed
12-13-13	ALL	Change Limited Sportsman to Novice	Class Name Change
12-13-13	7 &14	Delete Single Car qualifying Format (Laps)	Format Change
12-13-13	7 &14	Add New Single Car Qualifying Format (Tiimed)	Format Change
12-13-13	8	Point system changed to 1 point per position	Format Change
12-13-13	9 &15	Delete rule sending both cars involved in a caution to rear of field.	Rule Change
12-13-13	9&15	Addition of "Man-Up" rule	Rule Addition
12-13-13	10,13 &16	Change Sprint Car Fuel Fee to same as other Classes	Longer races for Sprint Cars
12-13-13	14	Awards	2014 Sponsors
12-13-13	13	NCS Classes to Novice, Sprint Cars, Sportsman & ECM.	Class Deletions and Additions
12-31-13	20	Addition of Dual Band Right Front Tire	Tire Added
12-13-13	23	Delete Super Late Model, Modified and East Coast Modified Class Specifications	Classes Deleted
12-13-13	23	Add 2014 East Coast Modified (ECM) Class Specifications	Class Added
13-13-13	24	Sprint Car Top Wing Mounting Clearance added	Clarification
12-13-13	29	Name change of page to Listing of Rules Changes	Clarification
01-22-14	23	ECM Rear Spoiler Rule	Height & Width Clarification
01-29-14	Contents	Delete 2012 Dirt National Listing	
01-29-14	7	Delete Super Late Model	Class Deleted
01-29-14	7	Add East Coast Modified	Class Added
01-29-14	8	Delete Super Late Model	Class Deleted
01-29-14	8	Add East Coast Modified	Class Added
01-29-14	14	Delete Super Late Model from Eligible Classes	Class Deleted
01-29-14	14	Add East Coast Modified to Eligible Classes	Class Added
02-08-14	23	East Coast Modified Body Rules Clarifications Spoiler measurements, Front Windshield square inches and opening, Front Nose Panel size.	Clarification
03-02-14	19	Intake Rule – No Rule Change – Example Added	Example Added
<b><u>2015 Season Changes</u></b>			
11-29-14	All	Change Novice to Limited Sportsman	Class Name Change
12-27-14	3	2015 Schedule	
12-27-14	4	2014 Champions	
12-27-14	12	Remove Mike Sadler, add Scott Harper	Co-Chair Change
01-01-15	7	Add "maximum" to Timed Qualifying Session	15 minutes too long at times
01-01-15	9	Race fee discount for multiple classes	
03-11-15	15	Post-Race Technical Inspection	Remove of random draw
03-11-15	15	Post-Race Technical Inspection	First place tear down as per pg8 No rule change, this change was omitted in error on this page
03-13-15	13	Race Fee discount for multiple classes	Missed on editing
03-13-15	13,16,18,19	Remove Bill Scott's name	Change to Natl Tech Director

### 2016 Season Changes

Date	Page	Change	Reason(s)
01-15-16	ALL	Correct year as needed	
01-15-16	5-33	Page numbers	New pages added
01-15-16	3	2016 Schedule	
01-15-16	4	2015 Champions	
01-15-16	5	Create New Suppliers page	Update Information
01-15-16	12	Remove Todd Holloway add Joe DePinto	Co-Chair Change
01-15-16	21,22	Tire Rules	Moved to a single page to allow for addition of rule #14 and the addition RC4Less to be an approved manufacturer and list the RC4Less tire compounds and locations.
01-15-16	32	Rules change listings	Addition of page 32 for 2016 changes
03-13-16	23	Col. 2 #23 Clarified location of allowed Heli-coil repairs.	Clarification
03-13-16	23	Col.2 # 13 Addition of allowed QSC Gasket on Carburetor and Intake	New Gasket Allowed

### 2017 Season Changes

03-14-2017	ALL	Correct year as needed	
03-14-2017	Table Of Contents	Updated as required	
03-14-2017	Old Page 3	Removed QSAC Calendar and dates	This information is listed on QSAC.org
03-14-2017	Old Page 4	Deleted page; 2015 QSAC Champs	Removing non-rules related items
03-14-2017	Old Page 5	Deleted Mfg, Dealer & Parts Supplier listings	Removing non-rules related items
03-14-2017	Old Page 6	Updated Safety Requirements, 10 & 11	Update to include no drug use
03-14-2017	Old Pages 12, 13	Deleted Showdown NCS Schedule	Removing non-rules related items
03-14-2017	Old Page 14	Removed Co-Chair name/contact information	This is documented on qsac.org
03-14-2017	Old Page 18	Removed Special Thanks note	Removing non-rules related items
03-14-2017	Old Page 19	Under "ALLOWABLE ENGINE CHANGES", #11, added "1148-13162" as an OEM option for an insulator (phenolic block)	This was a new insulator part that was listed in the latest manual from Husqvarna Zenoah
03-14-2017	Old Page 20	Removed reference to Mike Sadler and purchasing information for manifolds and plates.	This information is listed on QSAC.org
03-14-2017	Old Page 30	Deleted previous page 30; sanctioned tracks	This information is listed on QSAC.org
03-14-2017	Old Pages 33, 34, 35	Removed previous final three pages; rules change form, mailing information, and membership application	This information will be transferred to QSAC.org
04-25-2017	Page 17	Updated "Impact Parts" section with definition and boundaries around the approval procedure	To provide clear definition on the procedure going forward

### 2018 Season Changes

12-11-2017	ALL	Correct year as needed	
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## 2019 Season Changes

01-01-2019	ALL	Correct year as needed	
01-01-2019	Table Of Contents	Updated as required	
01-01-2019	Page 15	Updated Engine section, lines #3 and #7, and Allowable Engine Changes section, line #3	Per Rules Change Proposal #2
01-01-2019	Page 16	Removed "*" label for Maximum Timing	Per Rules Change Proposal #2
01-01-2019	Page 15	Updated Allowable Engine Changes section, lines #9, #19, and #20	Corrected reference page listings
01-01-2019	New Page 18	Added Shock/Damper Design Rules	Per Rules Change Proposal #1
01-01-2019	Old Page 20/ New Page 21	Updated page reference callout under Technical Specifications, Grand National Stock Cars, and Sportsman Stock Cars. Removed reference information for carburetor ordering.	Clerical updates
01-01-2019	Old Page 21/ New Page 22	Moved Technical Specification, Limited Sportsman Class to new page. Added spoiler specifications.	Per Rules Change Proposal #3
01-01-2019	Page 17	Impact Parts, corrected date for application deadline	Corrected date as September 31 <sup>st</sup> does not exist
01-01-2019	Old Page 21/ New Page 22	Removed wording stating that Limited Sportsman is a beginner class	De-emphasizing the class as being strictly for beginners.
01-01-2019	Page 16/17	Moved "Clutch" section from page 16 to page 17	To allow adequate space to add a list of tech tools on page 16
01-01-2019	Page 16	Added "Tech Tools" section to page 16	Added a list of Go/No-Go tools used for official inspection of plates and manifolds
01-01-2019	New Page 21, 23 and 26	Updated wording to recognize both the QSAC plate and QSAC Manifold for the Grand National, Sportsman, ECM, and Sprint Classes	Clerical update/clarification

## 2020 Season Changes

01-13-2020	ALL	Correct year as needed	
01-13-2019	Table Of Contents	Updated as required	
01-13-2019	Page 24-29	Updated Entire Sprint Car Section	Per Rules Change Proposal #2