

# III. SST Modified Rules

Revised - January 1, 2022

Anything not covered by the following rules must be checked with Super Short Track (SST) or Wyoming County International Speedway (WCIS) officials before proceeding. SST/WCIS reserves the right to adjust any rule for the betterment of competition. All decisions are final and binding.

## A. GENERAL

### 1.) Weight -

- a.) All cars minimum weight 2600 pounds with driver (refer to Engine Rule for weight disadvantage). Cars may be weighed prior to event if directed by tech officials.
- b.) Maximum 56% left side weight with driver in car. No allowances for gas, water, oil. No deduction for loss in weight due to race wears. Dislodged weight CANNOT be returned to car for weighing after race.
- c.) Absolutely NO weight shift devices of any type.
- d.) Track Scale - Unless otherwise authorized by the SST, at all times during an event, all weights will be calculated on official SST/WCIS track scales. It is the responsibility of each race team to see that their car meets the specified minimum weight requirements for this division on these scales. **Cars must be pushed on and off the scales by team crew. SST/WCIS SCALES WILL BE FINAL!**
- e.) Ballast Weight - Added weight must be in block form of no less than five (5) pound blocks. If ballast weight is needed to make total weight, it must be securely fastened to the frame rails, be painted white and car number painted on weight. Material and mounting must be acceptable SST/WCIS. No steel or lead pellets. No weight is to be mounted in driver's compartment unless welded and bolted with minimum two (2) grade 5 x 1/2" bolts (subject to safety tech inspection).

## B. FRAME/SUSPENSION

- 1.) All construction must be safe, professional, and acceptable to SST/WCIS officials.
- 2.) Minimum of two (2) inch frame ground clearance will be measured at frame rail between front and rear wheels. Checked with driver in car.

## C. ROLL CAGE

- 1.) Must be constructed of seamless round steel tubing with a minimum of 1 1/2 inch outside diameter .095 wall thickness. The overall allowable variations to the basic roll cage design that are subject to the discretion of SST/WCIS. SST/WCIS decision on roll cage design and safety is final. The mandatory six-point cage must surround the driver.
- 2.) "Blewett Bars" are highly recommended. Must have 2 vertical and one horizontal protecting drivers head from bumper/nerf bar intrusion.
- 3.) Driver door plates are highly recommended, minimum 1/8 inch plate. Three (3) 2 1/8 inch holes must be located forward of the leading vertical door bar and three (3) 2 1/8 inch holes to the rear of the back vertical door bars. This will allow for extraction device to cut free door bars.

## D. CHASSIS

- 1.) Competing Models - Super Short Track (SST) Modified Division races are open to eligible 1980 through current year models of American-made passenger car production sedans. Unless otherwise

authorized by SST/WCIS officials, all combination events shall be governed by the SST/WCIS specifications.

## E. BODY

- 1.) All bodies must be reasonably neat, must be painted and boldly lettered. Numbers from 00 to 99 two digits only (refer to Letter Addition parameters outlined in *I. General Rules Subsection I.13 Race Procedure - Numbering and Lettering Recommendations*). Number must be registered with SST/WCIS Race Director. Prior registration has first choice. Race Director will issue letters to same number vehicles racing in the same division. Please boldly mark as directed.
- 2.) The rear of the roof, at the highest point, shall be no more than three (3) inches higher than the actual front measurement.
- 3.) Minimum roof height is forty (40) inches measured back six (6) inches from the front lip on centerline. Rear of the roof at highest point will be max at forty (40) inches. All measurements taken with driver in car, in seat.
- 4.) A maximum height of thirty-six (36) inches is allowed on the tail light panel measured from the ground to the spoiler mounting point.
- 5.) No decals allowed on spoiler (through visibility is necessary).
- 6.) If fiberglass roof is used, car must be equipped with anti-intrusion roof plate. Minimum 1/8 inch aluminum plate mounted above driver's head front to back or side to side. Plate must be easily removable and rigidly secured.
- 7.) General Car Body Requirements (Car Bodies) -
  - a.) ROC/NASCAR Modified body rules will be used as a guide. The car body must meet the following requirements:
    - i. Cars must be neat appearing.
    - ii. Aluminum may be used on the body, Steel must be used for the interior cockpit surrounding driver and recommended sealed tight.
    - iii. All bodies must be installed on frame in a manner acceptable to the SST/WCIS. Window openings must remain stock appearing configuration. Bodies must be no wider than the standard width from the front of the door panel to the rear of the quarter panels when measured beneath the car at the rocker panels. A minimum distance of forty-three (43) inches and a maximum distance of fifty (50) inches is permitted across the body measured at the bottom of the front windshield opening. Rear quarter panels width is sixty (60) inches maximum, measured at top of back deck where bottom of spoiler meets. Bodies must not extend below the frame at the side rails. Skirts or additional metal may NOT extend below the body.
    - iv. The floor area directly beneath the seat forward to the front engine firewall must be made using a minimum 1/8-inch steel. The remainder of the floor area to the right and rear of the seat must be made from minimum 22-gauge steel. All floor area panels must be welded together.
    - v. Streaming at the top of the windshield will NOT be permitted. Bodies must have standard appearing windshield opening and the windshield post must follow standard configuration.
    - vi. Cars will NOT be permitted to compete with excessive body damage (excessive body damage to be determined by SST/WCIS).
    - vii. Cars must have all body panels, bumper and nerf bars to start or return to competition, \*excluding nose piece\*. Components must not be dragging on track (car must go pitside to repair damage).
    - viii. Belly pans will NOT be permitted. A belly pan will be defined as any object or material that alters the flow of air under the car. Determination of whether any material or object is or is not a belly pan shall be in the discretion of the SST/WCIS. Bottom panel of the front nose panel may NOT extend rearward past the edge of the harmonic balancer.

- ix. The driver's compartment may be enclosed with additional sheet metal. All interior sheet metal must be minimum 22-gauge steel. Interior sheet metal CANNOT be higher than or enclose a standard window opening. Sheet metal in driver's compartment must be horizontal from the top of the drive shaft tunnel to the right side door bars or angle from top of drive shaft tunnel upwards to top of right side door bars. Angled or horizontal metal must extend from the rear firewall or back of seat a minimum of twenty-six (26) inches forward. The interior sheet metal behind the rear hoop may be roll formed upward to the top of the rear hoop cross bar. The sheet metal must extend rearward and at the center of the rear axle housing, the sheet metal may angle upward and seal to the bottom of the rear window opening. Interior spoilers, wings, or wind deflectors will NOT be permitted. Double panels will NOT be permitted. All interior sheet metal subject to SST/WCIS approval.

#### 8.) Detailed Car Body Requirements -

- a.) FRONT AIR DAM - An approved air dam may be mounted to the front underside of cars. Front nose panel and air dam must not extend past the rear edge of the front bumper and must maintain two (2) inches ground clearance. At rest, nose panel and air dam must not extend past outside edge of front frame rails. Soft air dams below radiator must have a minimum ground clearance of one (1) inch. All support brackets must be mounted to rear of air dam. Side air deflectors may be used to direct air to front brakes and enhance removal of hot air from behind radiator. Must not exceed minimum ground clearance or extend above radiator hood.
- b.) REAR SPOILER - All rear spoilers and spoiler mounting points must be approved by SST/WCIS. A solid rear spoiler of a minimum 1/4 inch thickness clear polycarbonate only may be installed at the rear deck lid and meet the requirements that follow. An approved spoiler which controls the flow of air over one surface only.
- c.) The maximum spoiler size permitted shall be eight (8) inches high by forty-eight (48) inches wide. The rear spoiler must not be wider than the standard width of the rear quarter panels, measured across the top. The rear spoiler must be installed to the rear of the quarter panels where the rear panel meets the interior sheet metal. During race events the rear spoiler must not extend past the rear edge of rear bumper. Decals or logos will NOT be allowed on the rear spoiler. Rear spoiler may not stick out past side body panels.
- d.) Maximum of two (2) one (1) inch wide adjustable supports are permitted on the front of the spoiler extending forward to a secure point behind the driver.
- e.) A maximum of three (3) supports may be attached to the rear of the spoiler. The supports, front or rear, may be attached to the spoiler using a piece of one (1) by one (1) inch aluminum angle one (1) inch long.
- f.) A maximum of thirty-five (35) inches measured from the ground to the spoiler mounting point is permitted.

#### 9.) Hoods/Roof -

- a.) All cars must be equipped with a hood manufactured from aluminum, metal, or fiberglass.
- b.) The hood must be manufactured so that it will completely cover the engine compartment, from the left side to the right side; turn down a minimum of four (4) inches on each side, and cover (if used) the engine side panels. Only approved openings, and for the air cleaner and the distributor will be permitted. NO portion of the hood may cover and/or be higher than the bottom of the air cleaner. Hoods must be fastened with positive pin fasteners evenly spaced across the front.
- c.) All hoods must be approved by SST/WCIS.
- d.) Roof must be OEM Style. Roof support posts must maintain approximate angles as a stock production car. The front post (A-post) must be mounted to the top front of the door panel. The rear (B-post) must be anchored to the rear quarter panels. All roof panels must be installed in a manner that is acceptable to SST/WCIS. The front of the roof must be secured in three (3) places: one (1) in the center and one (1) on each side.

- e.) The rear roof quarter window panel including the door B-post must be SST/WCIS approved. The front edge of the B-post must be located a maximum of twenty-four (24) inches from the center of the rear axle housing forward.
  - f.) Rear deck lid and interior panels recommended to be of magnetic steel.
- 10.) Bumpers/Side Rails -
- a.) The rear bumper width minimum is fifty-seven (57) inches and the maximum width permitted will be sixty-six (66) inches. Each end of the rear bumper (from the mounting side) is required to be cut on an angle and capped with a minimum of 0.125-inch aluminum. SST/WCIS officials must approve alterations from this design. All bumper caps must be welded and sharp edges must be filled. The minimum bumper material size permitted will be 2 3/4 inches by four (4) inches by 3/16 inch thick. Bumper must be mounted at axle height. A maximum distance of forty-six (46) inches measured at the center line of axle to the rear edge of the bumper is permitted. Weight reducing holes will NOT be permitted in the bumper. Any inappropriate bumper will be disallowed. Front and rear bumper, and all nerf bars must be securely attached in order to COMPETE.
  - b.) All cars must be equipped with rear corner rails and side rails. All rails must be constructed using a minimum 0.083 inch thick magnetic steel seamless tubing with an outside diameter of a minimum 1 1/4 inches and a maximum of 1 3/4 inches. Side rail bars should be constructed using the following guidelines:
    - i. Right side bars shall be constructed by using two (2) pieces of magnetic steel seamless tubing. The bottom bar shall attach to the rear of the frame rail and extend upward and outward even with the outside of the tires, or up to a maximum of one (1) inch outside of the tires. The bottom side bar shall extend forward parallel with the frame rail and angle in to the front sub frame rail with minimal tire clearance. The bottom bar shall be mounted centerline with the rear axle and front spindle. The top side bar shall be attached centerline with the rear hoop cross bar extending outward and forward to the forward most point of the bottom bar. The top bar shall turn down, be centered on and attach to the bottom bar. The top bar shall have an additional support bar attached to the front roll cage leg bar centered on the dash cross bar. An additional support bar must be added in the center. The bar must be attached to the frame rail and side bar. Two (2) additional vertical support bars should be added, one (1) at the rear and one (1) in the center of the side rail bar. The distance measured at the front, center to center, of the top and bottom bars at the turn down area shall be a minimum of six (6) inches. The distance measured at the rear center to center shall be a maximum of nine (9) inches and minimum six (6) inches. Cars will not be permitted in competition without side rails.
    - ii. Left side rail bars shall be constructed using the same guidelines described above EXCEPT that the rear support bar may be a radiused bar that attaches to the rear hoop bar centered on the cross bar and extending down and attached to the frame rail. Left side rail bars must be mounted by centering the two parallel side rail bars with the center of the rear axle and the front spindle or left side bars may be raised a maximum of two (2) inches from center. Cars will NOT be permitted in competition without side rails.
    - iii. Rear corner rails must be constructed using two (2) pieces of magnetic steel seamless tubing a minimum of 1 1/4 inches and a maximum of 1 3/4 inches in diameter. Both pieces of tubing shall be identically formed and welded to a steel bumper bracket at the rear. The tubing shall angle out and upward even with the outside of the tires, or up to a maximum of 1/2 inch outside of the tires and maintain a six (6) inch dimension measured center to center. The corner bumpers shall then turn in with a minimal tire clearance to the rear quarter panels. Additional support bars must be installed behind the body panels to the rear frame rails and/or roll cage. Cars will not be permitted in competition without rear corner rails.

## F. FRAME

- 1.) All frames are recommended to meet the requirements described in the following paragraphs. Aluminum or light alloy frames will NOT be permitted.

- a.) Frame Requirements -

- i. All frames are subject to SST/WCIS approval. A minimum ground clearance of two (2) inches must be maintained on any part of the frame. All frame components must be made of steel and welded. Holes drilled in frames, frame supports, and cross members with the intent of making the metal lighter are not permitted.
- ii. Side frame rails and rear kick up must be constructed with .090 minimum thickness meeting the ASTM-A-500 specifications, and be a minimum of two (2) inches wide and three (3) inches high magnetic steel box tubing. The distance from the centerline of the driveline to the left side frame rail, measured anywhere along the frame, must be within six (6) inches (eight (8) inches on 1989 and newer models with the frame rail and roll cage extension) of the distance from the centerline of the centerline of the drive train to the right frame rail. A minimum width of thirty-four (34) inches and a maximum forty-six (46) inches, measured from center of left frame rail to center of right frame rail, must be maintained in the drivers compartment. A minimum width of thirty-one (31) inches and a maximum of forty-six (46) inches, measured from center of left frame rail to center of right frame rail, must be maintained on the rear kick up, with exception for suspension and tire clearance. All rear kick ups must maintain a minimum of eighteen (18) degrees from side frame rails to top of kick up.
- iii. The fuel cell reinforcement bar, using a minimum 1 1/2 inches seamless (3) vertical supports of 1 3/4 inches by 0.083 inch minimum seamless round magnetic steel tubing connecting it to the rear frame cross member. The main roll cage bar and the front roll bar legs must be connected with four (4) horizontal door bars on both left and right sides. The top door bar on each side must have a vertical vent window bar welded upward and connecting to the front roll bar legs. An optional vertical bar may extend from the roof hoop bar radiused outward and turn down to the top horizontal door bar on driver's side. The minimum 1 1/2 inch steel seamless tubing should be located in line with the driver. The door bars must be convex in shape and spaced from top to bottom as equal as space permits. The door bars must be the same length and have an equal amount of convex in both the right and left sides. The door must have six (6) vertical studs per side of 1 3/4 inches by 0.083 minimum seamless round magnetic steel tubing equally spaced. Two (2) angular studs must be attached from next to the bottom door bar to the frame rail. Right side door bars must cover a minimum of twenty-five (25) inches of door length and may be either four (4) horizontal bars with six (6) vertical studs or two (2) horizontal bars and two (2) bars configured in an X design. If the X design is used, a vertical bar must connect through the center of the X from the top horizontal bar to the frame. A roof support bar must also extend from the right front corner of the roof bar down to the transmission cross member. All joints where bars meet the main frame and meet the door bars, the roof bar and the rear support bars, MUST have gusset plates for reinforcement. Magnetic steel tubing, must be installed behind the fuel cell. This reinforcement bar must be as wide as the fuel cell and as low to the ground as the fuel cell with a minimum of two (2) uprights from the reinforcement bar to the rear frame cross member, evenly spaced behind the fuel cell. An X cross member made of one (1) inch magnetic steel tubing must be installed beneath the fuel cell from corner to corner. The X cross member must be welded or bolted to the rear frame rails in a secure manner.

- Two (2) additional support bars, one (1) at each corner of the protective bar, must extend forward and be welded to the rear frame assembly.
- iv. The front sub-frame assembly must be constructed using a minimum 0.083 inch thickness meeting the ASTM-A-500 specifications, two (2) inches wide and three (3) inches in height steel tubing. A minimum of twenty-seven (27) inches, and a maximum of thirty-two (32) inches, measured from center of left frame rail to center of right frame rail, must be maintained from the mounting point of upper control arms forward. All front sub-frame assemblies must maintain a minimum of 30 degrees angle from side frame rails up to the top of the sub-frame. All sub-frame assembly support bracing shall be a minimum 0.090-inch by 1 3/4 inches round magnetic steel seamless tubing. Frame support bars, left and right, must extend from the roll cage to the sub-frame and must have a downward radius bent into the bars before they are welded to the sub-frame. The left and right support bars must not have any additional braces added between the front leg bars and where they attach to the front sub-frame assembly. A flex support tube may be added to the front support bar at the radius and extend forward and be attached to a cross member. Any frame rejected by SST/WCIS for showing poor workmanship will not be approved until necessary corrections have been made.
  - v. The minimum wheelbase permitted in the SST/WCIS Sportsman modified class competition is one-hundred seven (107) inches. When measuring the wheelbase, the minimum allowable tolerance CANNOT exceed one (1) inch plus or minus on the other side.

#### **G. ROLL BARS**

- 1.) Round magnetic steel tubing 1 3/4 inches by 0.090-inch seamless rollover bars are compulsory for the basic roll cage and must be SST/WCIS approved. Aluminum and/or other soft metals are NOT permitted. Roll bar connections MUST be welded.
- 2.) MUST be four-post minimum fastened to top of frame.
- 3.) MUST have X or diagonal brace in case behind driver.
- 4.) Approved Containment Seat to be fastened to roll cage and frame according to manufactures specifications.
- 5.) Bumpers and nerf bars must be built on fourteen (14)-inch centerlines. Center of front and rear bumper must be at the center of tire height - fourteen (14) inches. Bumper must be smooth and capped as necessary.
- 6.) MUST have driver's side window net.
- 7.) Fire resistant padding HIGHLY Recommended on all bars located near driver. May use one piece pad on driver's door bars and around driver compartment.
- 8.) MUST have vertical bar in middle of front opening of windshield (minimum one (1) inch O.D.)

#### **H. FAN SHROUD AND DUCTS**

- 1.) When ducting air from the nose housing to the radiator, air directional shields are permitted within the duct.

#### **I. STARTER**

- 1.) Car must be equipped with working starter to begin event, limited push start acceptable at race directors discretion.

## J. SAFETY

- 1.) Seat And Shoulder Harness -
  - a.) All seats must be aluminum and have head rests or high back seat. Containment seat highly recommended. Seat must be attached to roll cage and frame according to manufacturer's specifications. Back of seat must be mounted to the roll cage. NO fiberglass or plastic seats.
  - b.) Driver must use a minimum three inch quick release, 5-point restraint systems. A two inch wide crotch strap is mandatory. All safety belts must be no more than five years old, and have readable identification tag. NO original equipment belts permitted.
  - c.) Shoulder harness must be connected to the roll cage. All lap belts must be mounted behind the seat and attached to the roll cage according to manufacturer specifications.
  - d.) All roll bars and driver side bars or other protrusions that driver may come in contact with must be properly padded with approved race car roll bar padding.
  - e.) All cars should have a working fire extinguisher in easy reach of the driver. On board central fire extinguishing systems are highly recommended.
  - f.) Driver side net with quick release mechanism is MANDATORY. NO plastic parts permitted.
  - g.) Boldly labeled fuel and electrical safety switches are to be in reach of driver and safety crews.
- 2.) Fire Suit And Helmet -
  - a.) Fire suits must be a minimum double layer Nomex or better design, fireproof underwear recommended. Nomex lined helmets are required. Non-Nomex lined helmets with the use of a Nomex head sock is allowable. Nomex gloves and shoes are required. Complete fire proof underwear highly recommended for all competitors.
- 3.) Windshield -
  - a.) A single one (1) piece flat or radius bullet type polycarbonate/lexan windshield may be used on the driver's side.
  - b.) The flat windshield must be mounted flush with the cowl or dash panel and extend up to the top of the windshield opening in front of the driver. Regardless of the type of windshield being used, it cannot be wider than the center of the windshield opening.
  - c.) Additional side shield may extend back from centerline of windshield at acceptable distance
  - d.) A complete steel windshield screen (with recommended maximum openings of one (1) inch by two (2) inches must be installed in the right side of the windshield opening. The windshield screen must cover the right side windshield opening from the center windshield bar to the right side roll bar and from the front hoop bar, at the top, down to the cowl or dash panel.
  - e.) Decals will NOT be permitted on the windshield in obstruction of driver's view
  - f.) All windshields, windshield screens and their installation must be acceptable to SST/WCIS.
  - g.) Driver window opening must have window net.
- 4.) Fire Wall -
  - a.) A front and rear firewall of a not less than twenty-two (22) gauge magnetic steel must separate driver from the engine compartment and fuel cell.
  - b.) The front firewall must be positioned below the leading edge of the windshield.
  - c.) The fire walls must be sealed and welded in place.

## K. SUSPENSION

- 1.) All suspensions and related parts must be reinforced and meet the following requirements:
  - a.) Coil Springs - Coil over front springs. One spring per wheel. STEEL ONLY. Coil over must mount to lower control arm. Upper strut bars will be permitted for mounting of coil over. Coil over springs must steel and will be constructed with both coil ends closed and ground.
  - b.) Sway Bars - Only magnetic steel front sway bars are permitted. Aluminum arms permitted. Rear sway bars (anti-roll bars) will NOT be permitted.
  - c.) Shocks - Only one (1) shock per wheel. All shocks subject to SST/WCIS approval. NO shock with a published racers net price greater than \$350.00 U.S. currency will be permitted. Any shock to be approved must be available to all competitors. Only shock absorbers with internal

valve components permitted. All manufacturers must be approved by SST/WCIS OFFICIALS. External shock absorber reservoirs will NOT be permitted.

- d.) A-Frames - Upper A-frames and lower control arms must be acceptable to SST/WCIS, mounted in standard , acceptable locations. No cantilever or strut assemblies. When attaching upper control arms, No castor/camber shims may be used. Washers only are recommended.
- e.) Spindles, Wheel Bearings And Hubs - The spindles, wheel bearings, and hubs must be acceptable to SST/WCIS and meet the following requirements:
  - i. Heavy-duty magnetic steel spindles and wheel bearings are compulsory.
  - ii. Aluminum or magnetic steel hubs are permitted.
  - iii. The front spindles must be attached to the frame using twin tethers (2), and be secured in a manner acceptable to SST/WCIS officials.

#### **L. BODY HEIGHT REQUIREMENTS**

- 1.) Body height shall be determined by measuring (with driver) the overall height of the car from a distance of six (6) inches behind the top of the windshield on the roof centerline. Minimum height will be forty (40) inches. The rear of the roof at the highest point shall be NO more than three (3) inches higher than the actual front measurement.

#### **M. GROUND CLEARANCE REQUIREMENTS**

- 1.) Frame rail and sheet metal clearance will be two (2) inches. All ground clearance requirements will be measured with the driver in the car.

#### **N. WEIGHT SHIFTING DEVICES**

- 1.) Mechanical devices for shifting weight which can be activated by the driver will NOT be permitted inside of drivers compartment.
- 2.) Electrical, pneumatic, hydraulic or remote control devices which change the handling characteristics or height of the car are NOT permitted.

#### **O. STEERING COMPONENTS**

- 1.) Rack and pinion steering ALLOWED.
- 2.) All cars will be equipped with a magnetic steel steering shaft.
- 3.) Tie rods, drag links and component parts must be heavy duty. Interchangeable pitman arms may be used. Pitman arms may NOT be drilled for weight reduction.
- 4.) A quick release, steel or aluminum coupling on steering wheel is MANDATORY. The couplings CANNOT be covered with plastic or coatings. The use of multiple universal joints and collapsible shaft in steering shaft is recommended. No straight steering shaft.
- 5.) Only metallic steering wheels are permitted. No plastic or carbon fiber will be allowed.
- 6.) The power steering pump must be mounted and belt driven off the front of the engine. No electric pumps.

#### **P. BRAKES AND BRAKE COMPONENTS**

- 1.) Four (4) wheel disc brakes MANDATORY. Only magnetic cast iron or cast steel rotors will be permitted.
- 2.) Brakes must be operational on all four (4) wheels at the beginning of the event. Officials recommend all teams to exit racing surface if they experience brake failure.
- 3.) Electric wheel speed sensors or brake actuators will NOT be permitted.
- 4.) Power assisted braking systems will NOT be permitted.
- 5.) Only one (1) brake caliper per wheel using only two (2) brake pads per caliper will be permitted.
- 6.) Brake bias system which connects to the balance bar of the brake pedal assembly will be permitted.
- 7.) BRAKE COOLING must be acceptable to SST/WCIS and meet the following requirements:
  - a.) One (1) air duct per wheel may be used for brake cooling.
  - b.) All scoops must be acceptable to SST/WCIS.



- c.) Maximum dimension of front brake air scoops is restricted to the dimensions outlined in front air dam section.
- 8.) Brake fluid recirculating devices will NOT be permitted.

#### **Q. BATTERY**

- 1.) Only one 12-volt battery. Battery must be located between the frame rails. Battery must be securely anchored. If located under the hood, the battery must have suitable cover. NO battery may be forward of the radiator or rear of the rear end housing of the car. Battery location must be acceptable to SST/WCIS officials.

#### **R. ELECTRICAL SWITCH LOCATION**

- 1.) All electrical switches must be located on the dash panel or within easy reach of the driver. A labeled on/off master switch to the battery cable MUST be installed on the cowl behind the windshield opening on the right side of the driver. The switch must be easily accessible and in plain view for safety officials.

#### **S. ENGINE COOLING SYSTEM**

- 1.) Standard Engine cooling system must be acceptable to SST/WCIS. Icing, freon type chemicals or refrigerants may NOT be used in or near the engine compartment. Portable cooling machines or devices will NOT be permitted. Anti-freeze not permitted, (see fine section of General Rules), water wetter or acceptable type of water pump lubricant is permitted.

#### **T. RADIATOR**

- 1.) The engine-cooling radiator must meet the following requirements:
  - a.) Radiator must remain in front of the engine between frame rails, no higher than the nose piece or front of hood.
  - b.) Radiator dust screens PERMITTED.
  - c.) Radiator MUST be copper, brass or aluminum.
  - d.) Radiator installation must be acceptable to SST/WCIS.
  - e.) Radiator overflow pipe MAY be relocated with overflow can (mandatory).
  - f.) NO anti-freeze. WATER ONLY.

#### **U. TRANSMISSION**

- 1.) Only standard production OEM type Muncie or T-10 manual three (3) or four (4) speed transmissions are permitted. May remove first gear and replace with spacer. Automatic transmissions allowed with scatter shield or blanket.
- 2.) Only aluminum, or steel transmission housings are permitted.
- 3.) Only OEM type gears are permitted.
- 4.) All transmissions must have a constant engagement of the input shaft with gear and countershaft with cluster and reverse gears.
- 5.) SST/WCIS reserves the right to have all cars use a final drive gear ratio within the limits set by SST/WCIS. (SST Touring Option)
- 6.) Any method or transmission gear higher than 1.18 to 1 will NOT be permitted. The only high gear transmission ratio allowed will be 1 to 1.
- 7.) A forward gear and reverse gear MUST be in working order.
- 8.) ONLY manual shift linkage is permitted on the transmission.
- 9.) ONLY fire resistant type shifter boots are permitted.
- 10.) The Jerico transmission will NOT be permitted.

## V. CLUTCH

- 1.) The clutch and clutch assembly must meet the following requirements:
  - a.) Must be disc / pressure plate design clutch assembly.
  - b.) NO coupler type / Dog clutch or direct drives.
  - c.) Multiple disc clutches are permitted. Minimum 7 1/4 inch diameter disc and using one (1), two (2) or three (3) disc design. Limited to magnetic steel discs, Steel or Aluminum pressure plates.
  - d.) The disc clutch housing assembly or cover shall be made from aluminum or steel ONLY. Any single disc OEM production type clutch assembly, with a minimum 10 1/2 inch diameter steel hub disc.
  - e.) Clutch MUST be mounted inside an approved bell housing/scatter shield.

## W. DRIVE SHAFT

- 1.) The drive shaft must meet the following requirements:
  - a.) Drive shaft, universal joints and yokes must be magnetic steel drive shaft and be similar in design to standard production type. Only a one (1) piece magnetic steel drive shaft will be permitted.
  - b.) It is MANDATORY that two (2) 360 degree solid magnetic steel brackets, NO less than One (1) inch wide and 1/4 inch thick, be placed around the drive shaft and torque arm and be fastened to the cross member of the car.
  - c.) All drive shafts MUST be painted white or safety orange.

## X. REAR AXLE

- 1.) The rear axle must meet the following requirements:
  - a.) Full Floating axels only.
  - b.) Aluminum or magnesium quick change and non-quick change center sections equipped with aluminum or magnesium side bells are permitted. If quick- change rear ends are used, only those with magnetic steel spur gears on the back side, jackshafts and axle tubes will be permitted.
  - c.) Quick changes rear ends must have the gears in the rear of the quick change Front loaders are not permitted.
  - d.) Ring and pinions in Quick changes must not be smaller than 10 inch. No mini quick changes. Ford 9" rear end acceptable.
  - e.) ONLY locked rear drive axle assemblies are permitted at all times during an event.
  - f.) Limited slip differentials, ratchet style or traction control devices are NOT permitted.
  - g.) For purposes of checking a pre-determined final drive gear ratio, when jacked up both rear wheels must rotate in the same direction with each traveling the same rotational distance.
  - h.) Offset Axle Tubes - The distance, measured from the center of the rear end housing to the rear hubs, left and right, at the point the wheels bolt on, must be within three (3) inches in length. Only magnetic steel axle tubes permitted.
  - i.) The rear end must be mounted so that the inside edge of the left rear tire is even with or outside the outermost edge of the left side frame rail + or - 1 inch.

## Y. FUEL SYSTEM

- 1.) SST/WCIS will reject any fuel cells, containers or check valves which appear to be damaged, defective or do not function properly. Fuel cell vent pipe check valves are compulsory.
- 2.) Pressure systems will NOT be permitted. Any concealed pressure type containers, feed lines or actuating mechanism will NOT be permitted, even if inoperable.
- 3.) Fuel Cell -
  - a.) The use of a commercially manufactured competition fuel cell is MANDATORY.
  - b.) The maximum fuel cell capacity, including the filler spout and overflow, shall not exceed 24 gallons.

- c.) Materials other than standard foam, as provided by an approved fuel cell manufacturer, are NOT permitted.
  - d.) Fuel cell must be encased in a container of not less than 22 gauge magnetic steel. Fuel cells must be fitted within the container so that the maximum capacity, including filler spout will not exceed 24 gallons.
  - e.) Interior steel sheet metal must allow access to top of fuel cell for inspection.
  - f.) Fuel cell and fuel cell container must be installed as far forward as possible in trunk compartment behind the rear axle and maintain a minimum ground clearance of six (6) inches.
  - g.) Fuel cell container must be secured in a professionally acceptable standard from the chassis manufacturer. Any modifications are not recommended.
- 4.) Fuel Filler Vent Requirements -
- a.) Must be approved competition type filler, in proper seal condition.
- 5.) Fuel Cell Vent -
- a.) A single, one (1) inch maximum vent to outside of body at left rear corner. A fuel vent flap valve must be used.
  - b.) The fuel cell check valve vent pipe neck inside diameter shall not exceed one (1) inch maximum. The fuel cell vent flexible hose shall have a maximum inside diameter of 1 1/4 inches and a maximum length of sixty (60) inches when measured from the outside end of the fuel cell check valve vent pipe to the top of the fuel cell fill plate.
  - c.) A screen cap with a maximum diameter of 1 1/4 inches may be placed over the vent.
  - d.) Fuel cap must remain secured during competition. If fuel cap becomes detached, vehicle must go pitside for repairs. SST/WCIS approval will be needed to return to competition.
- 6.) Fuel Lines -
- a.) Either (or both) right or left side pickup in fuel cell may be used.
  - b.) ONLY one (1) fuel line permitted from fuel cell to fuel pump. No rubber lines or plastic filters.
  - c.) All fuel lines are subject to SST/WCIS approval. Must be steel, aluminum, or heavy duty steel braided line.
  - d.) The fuel lines from the fuel cell to the carburetor may be relocated to prevent vapor lock, but must remain under floor of car unless otherwise approved. When the fuel line runs through the right side of the driver's compartment, it must be enclosed in a one (1) inch outside diameter magnetic steel tube. SST/WCIS approved check valve mounted at the line outlet on the fuel cell is recommended.
  - e.) Additional lines or extra length may not be used on the fuel system, Extra fuel lines or fuel cells, concealed or otherwise prohibited.
  - f.) It is recommended that an on-off fuel valve be mounted within easy reach of driver, and safety crew.
- 7.) Fuel Pump -
- a.) Electric fuel pumps are not permitted.
  - b.) Cooling of the fuel pump is not permitted.
  - c.) Only mechanical fuel pumps in stock location permitted. No Piston Pumps.
  - d.) Positive 'AN' type fittings recommended at all junctions of the fuel system.

## Z. ENGINES AND ACCESSORIES

SST Rule Amendment 2017: Approved Bowtie and World Product Blocks allowed.

- 1.) Maximum compression ratio 11.0 to 1, 2600 lbs. after race. Compression will be checked with a whistler.
- 2.) V-8 engines only. NO aluminum engine blocks or heads.
- 3.) Cast Iron Block -
  - a.) GM Chevy 350 cubic inch standard production block, or approved World/Dart or Bowtie with stock external and internal measurements. Bore size of 4.00 to 4.060 only (+.005 tolerance) Dart block part # 3116111.

4.) Crankshaft -

- a.) Only stock production type crankshaft can be used. Standard steel or cast iron. Aftermarket crankshafts must be identical to stock OEM in appearance, construction, weight and journal size. Counterweights must be the same shape and size of stock OEM crankshaft. Minimum crankshaft weight 48 lbs. Chevrolet must use LARGE journal size crankshaft.
- b.) Stroke 3.480 only (+ or - .005).
- c.) Counterweights must remain stock. No undercutting or round cutting.
- d.) No knife edging, tapering or altering in any weigh. NO TOLERANCE. Deburring permitted.
- e.) Rod journals stock diameter with tolerance of .020.
- f.) Harmonic balancer minimum diameter 6.25 inches. Fluid dampeners may be used.
- g.) Centerline of crankshaft minimum 9 1/2 inches from the ground. Or dictated by 2" oil pan minimum clearance.

5.) Connecting Rods -

- a.) OEM stock rods or aftermarket rods. Machining for bushing or full floating is allowed.
- b.) 5.700 or 6.000 forged or billet connecting rod permitted, for Chevrolet.
- c.) Aftermarket 5.700 forged or billet minimum weight 575 total grams.
- d.) Aftermarket 6.000 forged or billet minimum weight 600 total grams.
- e.) Maximum Ford rod length 6.000 Mopar rod length 6.125.
- f.) NO de-burring, de-flashing, polishing abrasive cleaning or lightening.
- g.) NO titanium, aluminum, max-light aerospace alloy rods allowed.
- h.) No Honda rods

6.) Pistons -

- a.) Flat top or dished aluminum three ring pistons only. All three rings must be used in the proper location. Valve reliefs may be machined in pistons. Any steel pin may be used.

7.) Cylinder Heads -

- a.) Heads must be any 23-degree, unported cast iron, from listed manufacture.
- b.) Chevrolet – World casting #011150 –Angle plug, #011250 –Straight plug.
- c.) Dart Iron Eagle #10310010 –Angle plug, #10320010 –Straight plug.
- d.) Platinum Series 200cc max head will only be allowed.
- e.) Proaction/RHS #2234-00000A/#12320 – Angle plug, #2234-00000/#12319 – Straight plug.
- f.) Ford #M-6049-N351.
- g.) Mopar #W-2.
- h.) GM Cast bowtie heads, 10134392, 14011058, 14011034.
- i.) Maximum intake runner volume of 200 cc. No porting to reach maximum runner volume.
- j.) NO G.M. VORTEC CYLINDER HEADS OF ANY TYPE.
- k.) Heads must retain stock internal, external measurements. No port matching, blending, porting, polishing, removal or addition of materials to head. No hand grinding or acid dipping permitted on any part of the head. No paint, epoxy fillers, welding or spray welding on heads. External painting to match engine allowed. Manufacturers spec and intake runner CC size will apply on all heads listed. NO TOLERANCE.
  - i. All valves must identical in appearance in construction as OEM type valve. Minimum valve stem diameter 11/32 inch. Valve stem diameter may be undercut to a minimum diameter of 15/16 inch in the area of the valve stem from the head of the valve to the bottom of the guide.
  - ii. Valve must be solid stainless steel only.
  - iii. Valve springs and push rods must be magnetic steel only.
  - iv. Screw in studs allowed.
    - v. Roller rockers and girdles are allowed. No shaft rocker arms.
  - vi. Chevrolet intake valve 2.020 exhaust valve 1.600.
  - vii. Ford Windsor intake valve 1.844 exhaust valve 1.546.
  - viii. Ford Cleveland intake valve 2.046 exhaust valve 1.546.
  - ix. Ford #M-6049-N351 intake valve 2.020 exhaust valve 1.600.

- x. Mopar Corp intake valve 2.020 exhaust valve 1.625.
  - xi. 1/2 inch under valve seat to complete valve job allowed. Machine cut only. No polishing or blending.
  - xii. Heat risers can be filled.
  - xiii. Multiple angle valve job with valve centerline and guide angle in OEM stock location in relationship to the head.
  - xiv. No combustion chamber modifications.
  - xv. No repositioning head on block. Stock location only.
  - xvi. No air directional devices.
  - 1.) No titanium components allowed.
- 8.) Camshaft -
- a.) Flat tappet camshaft only. NO roller camshaft.
  - b.) NO mushroom or roller lifters. Lifters must be stock diameter for the manufacturer.
  - c.) No roller camshaft bearings.
- 9.) Timing Chain -
- a.) Any timing chain and gears may be used.
  - b.) Degree bushing and offset crank gear keys may be used. Gear drives may be used.
- 10.) Rocker Arms -
- a.) Roller rocker arms permitted.
  - b.) NO shaft mounted roller rocker systems (Mopar only).
- 11.) Push Rods -
- a.) Magnetic steel valve push rods are permitted only.
- 12.) Engine Location -
- a.) The engine location must be approved by SST/WCIS. The engine must be mounted between the frame rails in front of the driver. The centerline of the crankshaft when measured to the center of the lower ball joint, left and right, must be within two (2) inches in distance. Engine minimum crankshaft center to ground clearance is 9 1/2 inches. The engine may NOT be tilted.
- 13.) Engine Ground Clearance -
- a.) Engine ground clearance will be measured (with driver in car) at the oil pan. A minimum height of two (2) inches from the bottom of the oil pan to ground MUST be maintained at all times.
- 14.) Engine Mounts -
- a.) All engine mounts shall conform to the following requirements:
    - i. Engine mounts must be solid reinforced aluminum or steel, and must be acceptable to SST/WCIS.
    - ii. All engine mounts MUST be securely bolted from frame to Engine block.
- 15.) Engine Displacement/Compression Limit -
- a.) Only small block V-8 engines with a minimum of 350 cubic inch displacement will be allowed.
  - b.) To clarify the identification of a small block engine, listed below are the basic engines designated and approved as small block engines. Any engine NOT listed will be designated as a large block engine and will NOT be permitted, regardless of the engine size. Maximum engine displacement as follows:
    - i. GENERAL MOTORS 350 CU. INCHES.
    - ii. FORD 351 CU. INCHES.
    - iii. MOPAR, AMERICAN MOTORS 360 CU. INCHES.
  - c.) Engine displacement may be increased by boring or stroking. Formula for determining cubic inch displacement: Bore x Bore x .7854 x Stroke equals cubic inch displacement of each cylinder. The cubic inch displacement of each cylinder added together will determine the total cubic inch displacement of the engine.
  - d.) COMPRESSION LIMIT: The maximum compression limit allowed shall be 11.0 to 1 on any cylinder. When calculating the compression ratio, an allowance of one (1) cubic centimeter

will be added to the volume for the area around the top of the piston down to the top of the piston ring that will be sealed with grease. The procedure for checking compression is as follows:

- i. Bore x Bore X .7854 x Stroke equals the Cylinder Volume of each cylinder at Bottom Dead Center (bdc) in cubic centimeters. The cylinder head pour volume minus (-) the known volume of the cylinder head plate plus (+) head gasket volume plus (+) 1.00 cc for sealing piston ring plus (+) the cylinder block volume minus (-) the known volume of the block plate equals (=) chamber volume.
- ii. (Compression ratio = Cylinder Volume plus (+) Chamber Volume).

16.) Engine Lubrication -

- a.) Oiling System - Internal oil pump driven from the distributor ONLY.
- b.) Oil Pans - Magnetic steel oil pans only. Minimum ground clearance two (2) inches.
- c.) Oil Pan Inspection Plug - Is recommended on the left side of the oil pan. The inspection hole must be a minimum of 1 1/4 inch I.D. It must be 9 1/2 inches from the rear block face to the centerline of the inspection hole or 4 1/2 inches from the front block face to the centerline of the inspection hole and 1 1/4 inches from oil pan rail. There will NOT be any obstruction of view from the inspection hole to view crank and rods.
- d.) Oil pans will be removed for component verification if no inspection hole is visible.

17.) Distributor -

- a.) Battery operated ignitions only. Stock type point distributor or electronic ignition allowed. Stock firing order for engine must be used. NO ignition boxes or multi-spark systems. Aftermarket coils must fit in stock location. May use aftermarket H.E.I. stock replacement type distributor. MSD H.E.I. # 8365 permitted.
- b.) SST/WCIS tech officials reserve the right to exchange distributors or components in search of traction control devices during any event.

18.) Water Pumps -

- a.) Only OEM type steel or aluminum mechanical water pumps in stock location, are permitted. Water pump impellers may be altered but coolant flow must be in the same direction as the production engine. Water pump must be belt driven off the front of the motor.

19.) Carburetor -

- a.) Unaltered HOLLEY #4412-500CFM only. HP Carburetor allowed. Must be approved by SST/WCIS officials.
- b.) Choke horn may NOT be removed. Boosters may NOT be changed. Booster size or shape may NOT be altered. NO sideways carburetors allowed.
- c.) Venturi area must NOT be altered. Casting ring must NOT be removed. NO grinding or polishing. NO modifications to the base plate.
- d.) Throttle shafts must remain standard and must NOT be thinned or cut.
- e.) Stock butterflies may be drilled for idle holes but must not be thinned or tapered.
- f.) Removal of the choke plate and choke linkage allowed.
- g.) Changing of jets accelerator pump nozzle, pump cam and power valves permitted. Alterations to allow additional air to be picked up below the opening of the venture such as altered gaskets, base plate or drilling holes into the carburetor will not be permitted. No epoxy fillers.

20.) Carburetor Adaptor Plate/Spacer -

- a.) Only one solid spacer made of aluminum or phenolic plastic of a maximum height of one (1) inch permitted. Only one .075 maximum gasket per side. NO wedge shaped mounting surfaces, both top and bottom surfaces must be parallel. Spacer must have two (2) holes maximum size 1.750 straight bore and match the base of carburetor. No air flow modifications.

21.) Carburetor Throttle -

- a.) All linkage must be mechanical type. NO cable type. Two springs MANDATORY.
- b.) Toe strap MANDATORY.

- 22.) Fuel -
- a.) Must be purchased at the track or same brand to eliminate altering or mixing of additives. No cutting fuel with other brands. Be sure tank is clean of outside fuels to ensure legality when in final tech.
  - b.) WCIS Tech has final decision based on residue, smell, and visual discolorations of fuel.
  - c.) Sunoco 110 track fuel only.
- 23.) Air Cleaners And Air Filters -
- a.) MAXIMUM OF FIVE (5) INCHES IN HEIGHT.
  - b.) All air must be filtered through the element.
  - c.) Top of the air cleaner must be solid with NO holes.
  - d.) Top and bottom of the air cleaner must be of the same diameter.
  - e.) NO air induction, ducts, baffles, tubes or funnels which may control the air leading to inside of, or between the air filters and carburetor.
  - f.) The filter base must have a minimum round opening of five (5) inches. It will be permissible to shield the front area of the air cleaner up to a maximum of one-half of the air cleaner circumference and no wider than the height of the element. A one (1) inch maximum height spacer may be used between the carburetor and the air cleaner.
- 24.) Intake Manifold -
- a.) CHEVROLET-EDELBROCK # 2101.
  - b.) CHRYSLER-EDELBROCK # 2176.
  - c.) FORD-#M-9424-C358 EDELBROCK # 2181 EDELBROCK # 2750.
  - d.) NO alterations or modifications to manifolds allowed. NO coatings allowed on or in manifold with the exception of paint only on exterior surfaces. Identification in the form of cast-in part numbers must remain unaltered on the manifold.
- 25.) Exhaust System -
- a.) Officials reserve the right of reject improper mounted exhaust systems.
  - b.) Exhaust headers must be a commercially manufactured header using a steel primary tube size of 1 5/8 inch minimum and a maximum of 1 3/4 inch outside diameter. 1 5/8 to 1 3/4 steel step header permitted.
  - c.) Must be a conventional collector with a maximum size of 3 1/2 inch OD.
  - d.) Maximum header flange will be 3/8 inch. NO header plates between heads and headers.
  - e.) NO adjustable headers. NO inserts allowed in any part of the header or collectors. NO 180 degree headers. NO stainless headers. NO merge. NO pyramid. No Try-y or similar style collector permitted. NO exhaust pipes allowed in driver's compartment. NO thermal wrap permitted on headers. NO crossover pipes permitted.
  - f.) Exhaust tips must be turned down towards the ground.
  - g.) Heat Shields - Heat shields to cover exhaust manifold can be NO more than six (6) inches wide and NO longer than the valve cover.
  - h.) Mufflers - no mandatory muffler is required for SST/WCIS Competition. Muffler or exhaust components falling off car may result in immediate disqualification.

## AA. WHEELS

- 1.) Only fifteen (15) inch diameter five (5) lug reinforced magnetic steel racing wheels with a maximum width of thirteen (13) inches are permitted. Twelve (12) inch maximum is recommended by most tire manufacturers.
- 2.) Any offset is permitted within track width requirements.
- 3.) Wide five bolt pattern OPTIONAL.
- 4.) Bead locks are NOT permitted.
- 5.) Maximum tread width is 84 inches measured from outside to outside tire.

## **BB. LUG BOLTS AND NUTS**

- 1.) Solid heavy-duty 1/2 to 5/8 inch magnetic steel lug bolts and standard one (1) inch hex by 1/2 to 5/8 inch thick magnetic steel lug nuts.
- 2.) Lug stud threads must go through the full thickness of the wheel nut on all four (4) wheels.

## **CC. TIRES - *American Racer EC-31***

- 1.) Only tires approved by SST/WCIS Officials will be permitted.
- 2.) Tire durometer WILL be checked. Durometer readings may be taken after racing competition or in the line up staging areas, any car not meeting the specification will not be permitted onto the racing surface.
- 3.) Durometer minimum will be determined by no more than 5 points below the average of all tires tested at current time of tech or testing below a Dur of 52. Length of race, air temp and surface temp all effect the durometer of the tire. Be prepared . No chemical or treatment of any kind permitted, internal or external. Teams with any alterations and/or durometer test failure will be disqualified and the illegal tire will be drilled with holes.
- 4.) Newly developed tools to test stickiness of tire surface will be used to eliminate tire treatment usage. All teams must abide by the findings of tech officials.
- 5.) NO use of bleed-off OR pop off type valves.
- 6.) Hand grooving, buffing, grinding and/or cutting on any area of the racing tire will NOT be permitted. Tires that have been altered by unauthorized treatment will NOT be permitted.
- 7.) Refer to additional tire parameters outlined in *I. General Rules Subsection E.22 Safety and Tech - General Tire Tech (all divisions)*.

EVERY COMPETITOR MUST MAKE THEMSELVES AWARE OF AND FAMILIAR WITH THE TECHNICAL RULES IN THIS CLASS. EVERY INDIVIDUAL AGREES TO BE KNOWLEDGEABLE AND BOUND BY THE CONTENTS OF THIS SUPER SHORT TRACK SERIES RULE BOOK.

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