2022 SPEARS SRL SOUTHWEST TOUR SERIES RULES & SPECIFICATIONS

- *Since 2001, the SPEARS SRL Southwest Tour Series has strived to bring the best in short-track racing to the tracks and fans of the southwest region. The SPEARS SRL Southwest Tour Series also strives to build an environment that is second to none for the competitors of the series, to ensure that each person who devotes his or her efforts to being part of the SRL enjoys the experience – we all share in that responsibility to build the proper environment to do so.*
- *These rules are set forth to govern the SPEARS SRL Southwest Tour Series in a fair and respectful manner with the consideration for all competitors and the series as a whole.*
- *Please note; it is ultimately the obligation of each participant to ensure that his/her conduct and equipment comply with all SRL Southwest Tour Series rules and procedures, as they may be amended from time to time. EXPRESSED OR IMPLIED WARRANTY OF SAFETY SHALL NOT RESULT FROM PUBLICATION OF, OR COMPLIANCE WITH THESE RULES. This Rulebook is intended as a guide for the conduct of Super Late Model racing and in no way guarantees against injury or death to participants, spectators, or others.*

1. WEIGHT: (weight include driver, race ready with fuel on board)

A. Minimum Base Weight: 2800 lbs. and 58.0% maximum left side weight at all times (without refueling), including post-race inspection.

B. Method of determining post-race total weight will be at the discretion of Officials. Officials may either utilize "1 lb. per lap" burn-off or allow teams to refuel for post-race total weight rules.

C. All lead weights must be painted white, with the car number painted on each individual piece and must be securely fastened. Added weight must not be used as panning or aero advantage. *Lead Inspection will be part of post-race tech and if a piece of lead is not properly painted white with car number in red or black marked on all sides the driver will receive a $1500.00 fine on 1st offense and will be an automatic disqualification on the 2nd offense. Any lost weight will result in a $25 per pound fine to the Driver. No Tungsten or similar weight allowed!*

D. Added weight located ahead of the front spindles or behind the centerline of the rear axle must be bolted securely to main frame rails and cannot be used as panning or aero advantage.

E. No titanium**,** Inconel**,** exotic materials, parts, or components allowed anywhere on racecar or the engine unless specified in the rules.

2. TRACK WIDTH / WHEELBASE:

A. Measured at spindle height 66" maximum all cars (zero tolerance).

B. Minimum 101" wheelbase required and a wheelbase difference from left to right may not exceed 1⁄2 inch.

3. TIRES / WHEELS:

A. All race tires must be purchased from Hoosier Tire West (559-485-4612) and may be pre-ordered and picked up at each event. Tire policy may be amended for controlled caution events.

B. Your four qualifying tires will be used to start the race. All tires used for competition must be purchased at the event and impounded.

C. No performance enhancing or appearance enhancing products allowed inside or outside the tires. **(Minimum $1,000 fine)**

D. Maximum 10" wide steel wheels steel studs and steel lug nuts only. Bleeders will not be permitted.

E. No fans or cool down units that fasten to the outside of the wheels will be permitted.

4. BODY / CHASSIS: **(See page 5 & 6 for minimum chassis eligibility & requirements)**

A. No air obstruction/deflection devices in grill area, duct work, thru radiator or tape of any kind will be allowed anywhere on the outside of the car. The only tape exception will be the upper half of the factory body manufacturer grill screen, or with official approval after on-track damage that results in the need for tape.

B. Minimum nose, body and frame height is 4" and Maximum of 8". (While in tech for the purposes of tech inspection)

C. Refer to the 2018 A-B-C Rulebook and guidelines for A-B-C Body and Five Star Next Gen Body Rules apply unless otherwise specified herein.

D. No panels allowed extending top edge of doors.

E. At all times, for original ABC bodies**,** the ABC "A" measurement must maintain a minimum length of 11.5 inches and 20 inches is the minimum length allowed for the nose, measured from the bottom, leading edge at center, up to the hood seam will be strictly enforced.

F. Front nose valance may only be a single layer and may only be a maximum 3/16" thick and may be only a maximum of 3" wide and may not cover any part of the grill screen. Valance must be secure to the nose and may not be moveable during competition.

G. The standard opening for the grill screen area, as approved for manufacturer's production, must be maintained at all times. Only ABC manufacturer's standard mesh screen may be used for the radiator opening in the nose.

H. The use of factory (AR & Five Star) ABC valances, rocker panels only.

I. 12-inch a-pillar vent windows are mandatory with a maximum of 1 inch of straight-line deflection and must be smooth with no bead rolls or breaks.

J. Straight Rail cars maximum drivers tub length is 52 ½" and the maximum width of frame is 53 ½". No under car panning outside of frame rails and no further than drivers' tub front or rear at the bottom of the frame. Perimeter cars can only have a total of 500 square inches.

K. Any holes in body not being used must be covered and remain so during the race.

L. Rub rail are discouraged and may only be used if they are polycarbonate.

M. If exhaust exits through the door, installation must include an exhaust flange that is mounted flush to the door and a maximum of 1" lip allowed on a 45-degree angle at pipe where it exits the door. Maximum ½" gap around the exhaust pipe and must not protrude through door.

N. No types of under-body air deflectors are allowed. The radiator duct work may be no wider than 29" and may not be carbon fiber.

O. Only one naca-duct in left or right quarter window for helmet blower only. No reverse naca-ducts.

P. Interiors must be steel or aluminum only.

Q. A minimum ground clearance of four (4) inches on any part of the frame, suspension or body (excluding front cross member). Cross member must have a minimum clearance of three (3) inches and the only part of the car allowed at (3) inches.

R. Tape may not be used anywhere on the car to control the flow of air or seal/secure seams between body panels (unless approved for repairs). Only exception is that tape may be used on radiator grill, front brake duct openings and a 1-inch strip along the bottom edge of the nose.

S. No cool down units, pumps, exotic fans allowed. <u>If you have to ask it's not Legal</u>

T. Window tint of any kind will not be allowed on windows or spoilers.

U. No hollowed-out bolts of any kind on suspension components.

V. No Carbon Fiber; radiator ductwork, rotors, drivelines, driveshafts, chassis supports or clutches.

5. ENGINES:

Basic Engine Guidelines

A. Use of any engine under 347 Cubic Inches will require a 50lb penalty.
B. Engines with rear mounted distributors will be located so the forward most spark plug is no more than two inches (2") from the center line of the upper ball joints. Engines with front mounted distributors: up to four inches (4") setback from centerline of upper ball joints.
C. Engines may not be offset more than one inch (1") from centerline of car.
D. Front center of crankshaft must have at least ten inches (10") of ground clearance.
E. Standard steel blocks only. No Carbon Compacted blocks of any type.
F. No Ford D3, SC, or other High Port heads. The following are the ONLY approved Ford heads: A, B, C, C3, and C35. These heads must remain unaltered other than porting and polishing. No altering will be allowed so as to change runner floor or roof height to raise port or ports, these heads will be considered high ports and are not permitted. Runner floor and runner roof heights must remain as manufactured from Ford.
G. No Overhead Camshafts.
H. A maximum 16-inch (O.D.) air element and housing must be used.
I. Any competitor that finishes in the top 5 may be required, at their expense, to remove the intake, heads, and/or oil pan for inspection purposes.
J. Externally lightened blocks will receive a 25-50 lb. total weight penalty.
K. All oil pumps must be mounted to front of engine.
L. Exhaust system may only be made out of mild steel, 304 or 321 stainless steel. **A muffler** (Highly recommended muffler Magna Flow part #14162) **must be used and installed in a configuration that will suppress exhaust noise to a maximum of 99db's at 100 feet.** Roseville event's will be 90db's at 100 feet and it is City monitored and Track enforced. (91db will get you black flagged)

SRL Tour legal 9.5:1 engine **(We will allow this package to run in 2022 but call for approval)**

A. Unaltered 390 CFM 4bbl Part #6895 or #80507. Carburetors must pass inspection at any time regardless of temperature. Booster must remain unaltered or gauge legal, 750 Holley carburetors (4779 or 80528) with the All-Star Performance Adjustable Base Plate with 1.200 inserts. No other modifications are allowed on carbs.
B. 1" Maximum spacer allowed but cannot extend into manifold.
C. No welding modifications are allowed to the original head castings. Cannot exceed 9.5:1 compression. Method of determining compression will be at the discretion of Officials. 8200 rpm maximum.
D. Minimum valve angle: GM-18 degrees; Ford 9 degrees with 4 degrees valve center; and Mopar 12 degrees. (+/- 2 degrees)
E. Steel or aluminum cylinder heads.
F. Steel standard production crankshaft; balancing, lightening, stroking allowed.
G. Any camshaft, any steel lifter, any rockers arms. Gear drives allowed.
H. Steel or aluminum intake. No fabricated intakes. No material may be added to production intake manifold to increase carb height. No welded-on spacers or air deflection devices allowed in intake. No part of carb spacer shall enter the intake.
I. Maximum c.i. = 362 (Ford, Chevy) • Chrysler = 365 cu. inch – steel blocks only.

Southern Super Parts Engine (SSPE) ***(Must have prior approval by Series before building this option)***

(May Be Claimed for $21,000 undressed + $500.00 pulling fee)

(Claim must be presented within 10 minutes of checkered flag in writing, by a Top 20 SRL team owner, paid in cash only)

A. Maximum Engine displacement is 362 cubic inches.
B. Maximum compression ratio is 11.5:1 with +.5 tolerance.
C. Any flat top piston with 927 wrist pin and minimum ring thickness 1mm x 1mm x 2mm only. Pistons must not extend out of the top of engine block. Maximum racer cost of $1500.00 per set.
D. Cast Iron engine blocks only. No lightened blocks.
E. Intake must remain stock. Absolutely no match porting or blasting of any kind permitted. Slotting of bolt holes, water lines and matching of sides allowed. Ford part #: Edelbrock 2928, 2929, or 2934 only. Chevy part#: Edelbrock 2814 and 2892 only.
F. Crankshaft must have a minimum weight of 40 pounds (with front timing pulley or sprocket). Minimum main size Chevy 2.300/ Ford 2.250. Maximum advertised racer cost of $2200.00
G. Connecting rods: Minimum rod journal size 1.850". Absolutely no piston-guided rods permitted. Maximum racer cost of $1600.00 per set. No titanium rods permitted. Minimum rod weight 540 grams.
H. Listed Brodix Cylinder Heads only. Heads may be surfaced to achieve proper compression ratio. Absolutely no other work of any kind will be permitted to the intake ports, exhaust ports, or combustion chambers. Ford part #: SP STS T-1 F STD 225-SSPE. Must retain minimum valve angle of 20°. Chevy Part #: SP STS T-1 STD 227-SSPE. Must retain minimum valve angle of 21°. Multi-angle valve job permitted. Absolutely no blending of valve job below valve seat permitted. Chamber must retain shape 3/8" above valve seat. Minimal blending due to multi-valve jobs permitted.
I. Maximum valve size: Intake 2.08", Exhaust 1.60", Stem size 11/32". Intake valve may be titanium or stainless steel. Exhaust must be stainless steel.
J. No Titanium valve springs permitted. Maximum racer cost: $500.00 per set. Titanium retainers permitted. Lock angles not specified.
K. Camshaft must be Competition Cam Part # 21151712. Camshaft must be installed on 104° intake centerline +/- 1°. Roller lifters, maximum racer cost of $750.00 per set. Maximum lift of .715" while using 1.6 rockers checked at valve with zero lash. Maximum 1.6 rocker arm racer cost of $1,600.00 per set. Magnetic-type push rods only. No keyway guided lifters permitted.
L. Maximum 5 stage dry sump oil pump permitted. Maximum racer cost of $1,500.00.
M. Oil pan must have 1" inspection hole. Absolutely no sectional pans permitted. Open box pans only (NO windage tray / scrapers etc.). Max. Racer cost of $700.00.
N. Ignition System may only be FAST Ignition part # 6000-6701 or **'JMS – Daytona Sensors' part # 6000-6701K**. Mount on right side of car dials point out the passenger side. The mag positive & negative shall be a maximum length of 62 inches. Must be remain uncut or spliced and on top of dash in clear view. Mandatory 7800 RPM Rev Limiter must be installed and fully functional. Absolutely no crank trigger pickups permitted.
O. Unaltered 750 CFM 4779, 80528 Holley carburetors permitted and must pass inspection at any time regardless of temperature. Maximum 1" carburetor spacer permitted on Ford Motor only. Maximum ½" carburetor spacer permitted on Chevrolet motor only.

Approved S.E.A.L. Engines and SSPE or other approved engines

A. All approved S.E.A.L **(McGunegill, Hamner, Progressive)** and SSPE engines must use the gauge legal, 750 Holley carburetors (4779 or 80528) **with the All-Star Performance Adjustable Base Plate with 1.200 inserts. See link.** http://www.allstarperformance.com/specSheets/pdf/285.pdf
B. Any tampering of seals or established construction of these engines is grounds for immediate disqualification.
C. S.E.A.L. approved McGunegill, Hamner. Ford 374D and Florida SPEC "Sealed Engines" may also be used. The 6 existing Ford 374D engines are

grandfathered for another year. No new Ford 374D engines may be built. If necessary, series officials may add or subtract weight to ensure fair competition.

D. The maximum RPM is the series mandated 7600 (Sealed) and 7800 (SSPE) for these engines. Rev limiting device must be operational at all times with RPM Dials securely covered. All Sealed engines must use the gauge legal, 750 carb as described in the SSPE section.

6. IGNITION SYSTEM:

A. Only one FAST Ignition part # 6000-6701 or **'JMS – Daytona Sensors' part # 6000-6701K**, mounted on a tray from original manufacturer must be used and may be swapped out at any time and mounted as far to the right and forward as possible inside the car with RPM dial positioned facing right side of car and all wires in plain view and out of reach of the driver. All wires to the distributor must be run separately and not part of a bigger loom or wiring harness. All wiring must be sealed. No unplugged wiring. Officials may switch ignition boxes from car to car, or swap with the SPEARS Southwest Tour Series ignition box at any time.

B. No alterations may be made to the FAST/Crane/**Daytona Sensors** ignition plate, box or coil and should remain as it comes from the manufacturer.

C. The distributor lead must be run on top of dash, by itself in clear view, then pass through a 1½ inch spec grommet on top of dash. No other wires may be in close proximity of the distributor lead. Only the distributor lead will pass thru the spec grommet. No other wires may pass thru this grommet. All other wiring (fans, blowers etc.) must be routed thru a separate grommet at least 12" away from the distributor lead grommet. All wiring must meet SRL approval and is subject to change.

D. The original Nelson Specialties/SPEARS SRL Southwest Tour Series or Quick Car part number #50-2053 spec wiring harness is mandatory and may be removed or swapped with the SPEARS Southwest Tour Series wiring harness at any time. We may allow a one race waiver for a new or visiting teams but please call to verify. The wire harness must be able to be removed from the car in five minutes or less.

E. The spec wiring harness shall not be altered or changed in any way.

F. If the harness from the race team needs repair based on the official's assessment, it will be sent to Quick Car to be examined and repaired at the team's expense.

G. NO Traction Control Devices of any kind - If any 'traction control' device is found, the driver and owner will be disqualified from the event, the car will be confiscated until a $15,000 fine is paid. Additionally, the driver and owner will receive a lifetime ban from all SRL events.

H. No Data Acquisition equipment/wiring is allowed in the car on officially recognized race or practice days.

I. No digital dashes will be allowed.

J. Cellphones, smart watches or Bluetooth devices will not be allowed in racecar at any time during tech, practice, qualifying or race, the driver will receive a $1000.00 fine on 1st offense and will be an automatic disqualification on the 2nd offense.

7. TRANSMISSION / CLUTCH:

A. Full standard type transmission only will be permitted. No quick-change transmissions will be permitted. A minimum of one reverse and two forward gears will be required.

B. Multi-disc clutches will be permitted. No direct drives. Conventional clutch mounted to fly wheel only will be permitted. No carbon fiber or nonstandard material clutches. The minimum clutch Diameter is 5.5". No "slipper" or "centrifugal" clutches allowed.

8. REAREND / DRIVESHAFT:

A. **(1-1-2023) Standard Winters or equal type/brand of quick-change rear end with spur gears out the back cover.**

B. No fifth (5th) coil, torque arm or lift bar suspensions will be permitted. No birdcage set-ups of any kind (3 or 4 link). Trailing arms must mount to rear end and chassis in a solid fashion (heim allowed) and no part of the trailing arm mounting may freely rotate around the rear end or move. Truck arm cars must have a race-to-race approval.

C. Steel or aluminum driveshafts only. Two driveshaft hoops are mandatory.

D. Cars must be utilizing a locked rear end with a spool. No part of the spool may move or twist allowed.

E. **Rear end ring gears must be a minimum of 8 inches.**

9. FUEL:

A. **Sunoco Standard Purple 110 is the Spec fuel of the Series**. Fuel samples may be taken at any time and tested **for dielectric constant, pacific gravity and color.** Alcohol, nitro-methane, nitrous oxide, other oxygenating agents, other additives and/or fuels that contain masking agents or oxygen are not permitted. Street-use pump gas is not allowed. Use of such substances or additives will result in immediate disqualification. **A variation of more than +/- 0.3 in the Dielectric Constant (DC) reading from Sunoco 110 will be Illegal.**

B. No electric fuel pumps or forced induction of any kind are permitted.

C. No icing or cooling of fuel system.

D. A fuel cell will be mandatory with a 22-gallon (U.S.) maximum and a minimum of eight inches (8") ground clearance. Fuel cell must be equipped with at least two (2) protective straps completely around the cell. Fuel cell must be mounted securely behind the rear axle of the car. Cars must have a minimum 1/8" steel plate, or similar strength aluminum plate, between fuel cell and rear end. A similar plate at the rear of the fuel cell is recommended. All cars must have safety bar at the rear of the fuel cell. At a minimum, all fuel cell configurations must include a rubber type cell in a steel container. No "U" Shaped Fuel Cells or non-standard-shaped fuel cells.

E. **(6-30-2022) In all cases, the Fuel Cell must be mounted no farther forward than would be possible when using a standard Winters or equal type/brand of quick-change rear end with spur gears out the back cover.**

10. SHOCKS / SPRING:

A. Maximum triple adjustable shocks only acceptable and **only (1) one shock, (1) steel coil spring and (1) steel bump spring per wheel.**

B. No electricity to the shock, hydraulic spring perches or air shocks allowed and no shock may be adjusted by driver within driver's compartment.

C. Only the springs may hold the car up during ride height tech inspection. Nothing may be on the shock shaft or anywhere else which holds the car up during tech inspection. A portion of the shock shaft must be visible during pre-qualifying and pre-race tech inspection.

D. Heating pads, cover and/or blankets will not be permitted over the shock absorbers.

E. Shock bump stops will be allowed and only Approved Bump Springs – Landrum Performance Springs, Eibach, Hypercoil and Swift brand bump springs are the only approved bump springs for competition.

F. Spindles must be Steel. (Exception: approved Coleman Spindle)

G. Springs, shock absorbers, or any dampening devices will not be allowed on the lower trailing arms, track bar or upper third link.

11. BRAKES / BRAKE COOLING:

A. Vehicle must be equipped with four-wheel hydraulic brakes.
B. No carbon fiber rotors. Only steel rotors are allowed (no titanium).
C. Brake fluid circulators permitted. Liquid or gas cooling not permitted.
D. Electronic wheel speed sensors, power assisted braking systems or brake actuators will not be permitted.
E. One (1) mechanical brake pressure proportioning system to adjust front to front to rear bias, and its location, acceptable to the SRL officials, will be permitted. Electronic or remote-control devices will not be permitted.
F. All air for blowers or coolers in the engine compartment must be pulled from the nose or the radiator air box **and must fasten to a spindle duct**. Air may not be blown or forced onto the tire or bead. Air may only be directed to the brake rotors.
G. No hoses or holes through the interior sheet metal allowed. **Fans, ducts or hoses to the rear brakes will not be permitted.**
H. Liquid or gas cooling of the brakes will not be permitted.

12. SAFETY: **(See page 5 & 6 for minimum chassis eligibility & requirements)**

A. Two-way radio communication between driver and minimum of one spotter for each team is required for all competitors at all times while on track. **Mandatory each spotter must have a dedicated stand-alone radio or scanner to monitor Race Control at all times frequency at 460.0125.**
B. No cameras allowed under the car, cameras inside car may be approved but Series has the right to view or download any video at any time.
C. **Professional manufactured aluminum racing seats with a SFI rating is highly recommended. The Kenny's Components JL1 seats are approved if bolted in 6 locations with a minimum of 3/8 bolts, but any other carbon fiber seat must have prior approval and may be required to have a minimum SFI rating of 39.2.**
D. Approved SFI or FIA seat belts and double shoulder harness will be required, no older than five (5) years. A crotch strap will be required.
E. A capable form of an SFI or FIA head & neck restraint must be used, with certification **no older than five (5) years**. A strap-type neck restraint is mandatory (No Neck Collars). Driver will not be allowed on the racetrack at any time without proper neck restraints in place.
F. Full-face helmet required and must be 2010 but recommended 2015 Snell standard or better and have sticker visible for inspection.
G. Clean SFI or FIA, full driving suit, shoes and approved gloves for fire protection are mandatory.
H. Driver's window must be equipped with safety net SFI or FIA with quick release-latch, no older than five (5) years. String window nets will not be permitted. The minimum net size must be 22" wide and 16" high. When latched, the window net must fit and pull tight.
I. Resilient padding designed for roll bar use must be installed on any roll cage member which can be reached by any extremity of the driver while driver is normally seated with restraints fastened. Steering wheel must be padded.
J. All competing teams must possess a minimum 10 lb. Aluminum working fire extinguisher while in attendance in pits, and this item must be presented at inspection. Car number must be painted on fire extinguisher.
K. A main electrical cut-off switch needs to be clearly marked and easily accessible to safety crews.
L. No part of any cooling system may be located in driver's compartment.
M. Batteries must be securely mounted outside of driver's compartment.
N. A working Fire Suppression system or driver accessible fire extinguisher is required.
O. All cars must have an OBERG or SRI fuel shut off at the point the fuel exits the cell and after fuel filter.
P. All fuel cells must be SFI or FIA rated and within 7 years of build date. We will verify and seal at the beginning of the season.

13. CONTINGENCY / NUMBERS:

1. Numbers must be a minimum of 21" in height, with body of each character a minimum of 3" in width and must be professionally placed on each door and a roof number must be 36" in height and three inches wide.
2. The driver's last name is to be displayed on both sides along or just above the rocker panel below the car number in 5" readable letters.
3. All the SRL contingency sponsors' decals must be placed on all cars to be eligible for any and all event prize money, points and/or awards. The location of these decals will be designated by the SRL. The contingency pack will be supplied by the SRL.

14. TRANSPONDER:

1. All competitors must have timing transponders on their car for the entire program including practice. Available at event.
2. **All Transponders must be mounted 160" inches (front of nose to the center of transponder) from front of the nose and on outside of right-side frame rail.**

15. OFFICIAL DECISIONS:

1. Any situation not specifically covered in these rules will be acted upon by the official or officials in charge at the time, whose decision will be final and binding.
2. Any disagreement over technical questions or operations will be resolved by series officials. When decision is rendered, decision is final and binding
3. Continuous developments in racing may necessitate changes which cannot be anticipated at the time rules are formulated. If necessary, rules may be updated, changed, deleted or added to at the discretion of the Series officials.
4. At certain events, to encourage participation of local competitors, the officials may alter the rules for those cars to try and create a level playing field for cars that might fall outside of the normal rules. Series official's decisions are final.

For additional information go to www.srlsouthwesttour.com, contact Ricky Brooks at 850-324-6821 or rickybrooks5@aol.com

(All aspects of these Rules are subject to adjustments or changes as deemed necessary by the SRL officials)

5.10.22 RB

NATIONAL MINIMUM CHASSIS ELIGIBILITY AND REQUIREMENTS

A. Frame:

1. All chassis components must be made of magnetic steel and welded. The chassis must consist of a front and a rear sub-frame connected to the main frame on which the roll cage is welded and have a minimum overall height of 39". Holes and/or other modifications that, in the judgment of the officials, were made with the intent of weight reduction will not be permitted.
2. Main Frame - The main frame must consist of two (2) side rails of magnetic steel box tubing minimum 2" x 3", with a minimum wall thickness of .083" (recommended .120"). All frame rails must be parallel. The maximum distance from outside to outside of frame rails is 53 ¼", and 50" minimum. Weight containers may be welded to the outside of the frame rails and must not exceed six inches in width measured from the inside edge of the frame rail to the outside edge of the weight container, and must not exceed the length of the frame rail.
3. Front sub-frame rails must be a minimum of 2" x 2" by .065" on the front clip from the front of the A-frame forward.
4. Rear sub-frame rails must be a minimum of 2" x 2" by .065" and must extend around the fuel cell.

B. Roll Bars

1. At a minimum, all cars are required to have the basic and typical roll cage. Unless otherwise specified below, all roll bars listed must be made from round steel DOM tubing 1-3/4" by .090" (.000 tolerance) minimum wall thickness. Holes and/or other modifications that, in the judgment of the officials, were made with the intent of weight reduction will not be permitted.

C. Basic Roll Cage

1. The **main roll bar** must be made from round steel DOM tubing 1-3/4" by .090" (.000 tolerance) minimum wall thickness and must be a continuous length of tubing with one end welded perpendicular to the top of the right frame rail and one end welded perpendicular to the top of the left frame rail.
2. The distance from the center of each of the front roll bar legs to the center of the main roll bar must not measure less than 40-1/2". Each of the front roll bar legs must be made from round steel DOM tubing 1-3/4" by .090" (.000 tolerance) minimum wall thickness and must be constructed from a continuous length of tubing.
3. The **halo** must be made from round steel DOM tubing 1-3/4" by .090" (.000 tolerance) minimum wall thickness and must be a continuous length and remain parallel within 1-inch to the main frame rails with a minimum height of 38". The outside-to-outside width of the halo must be a minimum of 28" front to rear and a minimum of 25" from side to side.
4. The **main roll bar diagonal bar** must be made from a minimum of round steel DOM tubing 1-1/2" by .090" (.000 tolerance) minimum wall thickness and must form a straight line, with no bends and must begin near the upper left and or right bend of the main roll bar and after intersecting the horizontal shoulder bar, should be supported from that point down to the main sub frame.
5. The **dash panel bar** must be made from round steel DOM tubing 1-3/4" by .090" (.000 tolerance) minimum wall thickness and must be a continuous bar, with no bends, welded beneath the dash panel between the two (2) front roll bar legs at a minimum height of 16-1/2" above the main frame rail.
6. The **door bars** must be made from round steel DOM tubing 1-3/4" by .090" (.000 tolerance) minimum wall thickness on the left side, must have a minimum of three (3) bars **(Design A)** or minimum of four (4) bars **(Design B)** equally spaced from top to bottom that must be welded horizontally between the vertical uprights of the main roll bar (#1) and the front roll bar legs. The top left side door bar minimum height must be a minimum vertical height of 18-7/8 inches from the top of the main frame rails. Left side door bars must be convex in shape and convex outward past the main frame rail. The left side door bars must have a minimum of six (6) vertical supports with two (2) equally spaced between each door bar. These supports must be made from a minimum of 1-3/4" by .090" (.000 tolerance) minimum wall thickness magnetic steel seamless round tubing. All door bars must be plated from the top door bar to the frame rails.
   Design A (3 door bars) – minimum 0.090" solid steel doorplate's must be welded or bolted to the roll cage using a minimum of six (6) each 3/8" (.375-inch) aircraft quality bolts and washers.
   Design B (4 door bars) – minimum 0.062" (1/16") steel doorplate's must be welded or bolted to the roll cage using a minimum of six (6) each 3/8" (.375-inch) aircraft quality bolts and washers.
7. Right side door bars must be made from round steel tubing with a minimum of, one top bar of 1-3/4" by .090" (.000 tolerance) with a minimum height of 15", maximum of 20 ½" and one diagonal bar of 1-1/2" x .065".
8. The left side **vertical vent window bar** must be made from a minimum of round steel DOM tubing 1-1/2" by .065" (.000 tolerance) minimum wall thickness and must be welded from the upper surface of the top door bars on the left side to the front roll bar legs.
9. The two **rear down support bars** must be made from round steel DOM tubing 1-1/2" by .065"(.000 tolerance) minimum wall thickness and must be lengths of tubing welded to the left and the right backside of the main roll bar near the roof panel at the top and connects with the sub frame.

D. Driver's box and foot box:

1. The floor pan of driver's box must be a minimum of 12-gauge (.100") thickness steel plate and welded in.
2. The left side of driver's foot box must be plated with a minimum plate of 9" high by 12" long and a minimum .090" thickness steel plate and welded in place to protect the driver's feet.
3. Behind the driver's seat must be plated with a minimum .090" thickness steel plate, at minimum 10" tall by 12" wide and welded in place.

E. Fuel and Fuel Cell:

1. Fuel cell must be mounted in a minimum structure of 1"x 1" square steel tubing with a minimum thickness of .065" (.000 tolerance).
2. The fuel cell must be encased in a container of not less than 22 gauge (0.031" thick) magnetic sheet steel.
3. If the fuel cell container has a bolt on top, it must be bolted together with minimum 3/16" diameter bolts.
4. The bottom support frame must be constructed using a minimum of two (2) straps, 1 ½" x 0.125" minimum thick magnetic steel or 1"x 1" square steel tubing with a minimum thickness of .065" (.000 tolerance). These supports must be welded to the fuel cell front and rear cross members. The support straps must extend down the front and rear equally spaced and under the fuel cell container.
5. A reinforcement plate of not less than 11 gage aluminum (.125" thick) flat plate must be installed in front will be mandatory and behind the fuel cell container is highly recommended. The plates must extend the entire height and width of the full cell container and be securely welded in place or bolted (minimum 3/16' diameter bolts) with two (2) bolts on each side.

F. Bumpers:

1. Nose/front bumper, tail/rear bumper cover must be a minimum 1.250" x .065" OD steel tubing. All supporting substructure must be constructed of a minimum ¾" x .065" wall round or square steel stock. If aluminum tubing is being utilized, minimum wall thickness must be .083".

G. Chassis Right Side Body Bars:

1. Chassis right side door bars commonly called the outrigger or the kick-up bar supporting structures must be a minimum 1.250" x .065" OD steel tubing only. All supporting substructure must be constructed of a minimum ¾" x .065" wall round or square steel stock.