

# 2023 LATE MODEL RULES

## 1.0 - ENGINE/CARB/WEIGHT COMBINATIONS

ENGINE	WEIGHT	R/S WEIGHT	CARB	PLATE
GM Built (Angle Plug Heads)	3075	1360	500 CFM	OCS Track Spacer
GM Built (Straight Plug Heads)	3075	1360	500 CFM	OCS Track Spacer
Ford Built	3075	1360	500 CFM	OCS Track Spacer
Dodge Built	3100	1375	500 CFM	OCS Track Spacer
GM 602 Crate	3050	1325	390 CFM	1" Open Spacer
GM 603 Crate	3075	1360	390 CFM	1" Open Spacer
GM 604 Crate	3075	1360	500 CFM	OCS Track Spacer
GM "Upgrade" Engine	3100	1375	500 CFM	OCS Track Spacer (7200 RPM Limit)
GM "Harrington Enforcer"	3100	1400	500 CFM	OCS Track Spacer (7200 RPM Limit)
Ford 347 SR Crate (Upgrade)	3100	1375	500 CFM	OCS Track Spacer (7200 RPM Limit)
Ford 347 SR Crate	3100	1375	500 CFM	OCS Track Spacer (7200 RPM Limit)
Ford 347 JR Crate	3075	1360	390 CFM	1" Open Spacer

## 2.0 - CAR BODIES

### 2.1 - GENERAL

1. All cars must have complete bodies, hoods, roofs, doors, front fenders, quarter panels, front and rear bumper covers in top quality condition and must be acceptable to OCS Officials
2. NASCAR approved 2007-2023 composite bodies will be allowed. This includes the new "NextGen" style LMSC bodies per 2020 NASCAR Rulebook (see [sub-section 20F - 2.1](#))
3. All body panels must be attached in a manner acceptable to OCS Officials
4. Vehicles must be neat appearing. The interior and exterior of all floors, firewalls, roll cage and frame assemblies and the interior of all body panels must be painted
5. The dimensions of the body must remain as manufactured
6. Adjustable body mounts will be permitted
7. A full windshield and rear window in good condition are required
8. Bodies must be installed within ½ inch of centerline, i.e.: the center of the front bumper cover and the center of the rear bumper cover must be within ½ inch of the centerline of the chassis
9. Installation of air directional devices, underpans, baffles, dividers, shields or the like beneath the vehicle or the vehicle's hood and fender area, front firewall, floor, rear firewall area, rear deck, and quarter panel area will not be permitted

## 2.2 - FRONT AIR DAM

1. The front air dam must maintain a 4-inch ground clearance
2. All support brackets must be mounted to the rear of the air dam
3. For 2007-2019 models, the leading edge of the air dam must not extend more than 3 inches forward of the bumper measured at any point across the bumper
4. For 2020 and newer models, the leading edge of the air dam must not extend more than 4 ¾ inches forward of the bumper measured at the centerline of the front bumper
5. For 2007-2019 models, the leading edge of the air dam, when measured from the centerline of the right front spindle must not exceed 46 inches
6. For 2020 and newer models, the leading edge of the air dam, when measured from the centerline of the right front spindle must not exceed 47 inches

## 2.3 - REAR SPOILERS

1. A solid non-adjustable spoiler must be mounted to the rear of the car
2. For 2007-2019 models, rear spoiler must not exceed five (5) inches in height and 54 inches in width and must maintain between 50-60 degree angle
3. For 2020 and newer models, rear spoiler must not exceed five (5) inches in height and 64-1/2 inches in width
4. The rear spoiler will be measured from the backside
5. Rear spoiler must be mounted centered on the rear of the car
6. Rudders or forward mounting brackets will not be permitted
7. For 2007-2019 models, the maximum rear spoiler height from the ground to the top of the spoiler will be 39 inches
8. For 2020 and newer models, the maximum rear spoiler height from the ground to the top of the spoiler will be 39-7/8 inches

## 2.4 - WINDSHIELD / WINDSHIELD BRACES

1. A clear polycarbonate minimum 1/8 inch windshield must be used
2. The windshield must have a minimum of 3 metal strips mounted behind the windshield a minimum of 1/8 inch thick by 1 inch wide
3. A rubber strip may be used between the metal strips and the windshield
4. Windshield clips may be mounted with bolts or pop rivets

## 2.5 - REAR WINDOW

1. Rear window must be clear polycarbonate a minimum of 1/8 of an inch thick
2. Any holes in the rear glass for access to adjustments will have a maximum diameter of 1 ¼ inch
3. The rear window must be mounted securely using either bolts or rivets
4. Two metal straps a minimum of 1/8 inch by 1 inch may be used to secure the rear glass

## 2.6 - SIDE / QUARTER WINDOW

1. No side windows
2. A polycarbonate air vent may be mounted at the "A" post



3. Clear polycarbonate quarter windows may be installed and must maintain the same dimensions as manufactured
4. All glass mounting must be acceptable to OCS officials

## 2.7 - DASH PANEL

1. All dash panels must be acceptable to OCS officials
2. All full dash panels must have an inspection panel installed on the top of the dash on the driver's side
3. The inspection panel must be large enough to allow inspection of all the wiring
4. The dash panel must not be lower than the top of the steering column

## 2.8 - FIREWALLS / INTERIOR SHEET METAL

1. For driver protection, all firewalls, floors, tunnels, and access panels must be installed and completely secure
2. All cars must have full front and rear firewalls and interior sheet metal constructed of minimum 24 gage (0.025 inch) steel and must be welded in place
3. All firewalls must be sealed with no holes between the engine and the driver's compartment, and between the fuel cell area and the driver's compartment
4. The front firewall must extend straight across from the left-hand side to the right-hand side with no offsets
5. If the floor pan is raised on the right-hand side, a firewall panel must be installed to cover the raised floor pan area

## 2.9 - DOORS

1. The maximum outside width of the door panels from the left side to the right side must not exceed 77 ½ inches
2. Door panels must be a one-piece design only, maintaining the dimensions for the approved model vehicle and be acceptable to OCS Officials
3. Door panels must be made of a minimum 24 gage (.025-inch) magnetic steel or .040-inch minimum thickness aluminum
4. Cars must have a magnetic steel anti-intrusion plate, minimum .090-inch thick, installed on the outboard side of the left side door bars and welded or bolted in place
5. The anti-intrusion plate, if bolted, must be attached with not less than four (4) minimum 1/2-inch diameter bolts bolted to tabs of not less than 1/8-inch thick flat steel that are welded to the door bars
6. Door bars must not be drilled when installing the intrusion plates

## 2.10 - FENDERS / QUARTER PANELS / ROCKER PANELS

1. The maximum outside width of the fenders, quarter panels, and rocker panels from the left side to the right side must not exceed 77 ½ inches
2. Front fenders, quarter panels and rocker panels configuration must match from left side to right side
3. Rocker panels must completely fill the area between the frame rail and the door panel for the entire length of the main frame rails
4. The rocker panels must be magnetic sheet steel and remain straight and parallel with the frame rails



## 2.11 - GRILLE

1. All lower grille openings must maintain the same size and shape of the standard production original equipment
2. The simulated upper grille opening in the approved front bumper cover must not be altered or opened for radiator air entry
3. The grille opening may be covered with two (2) layers of screen wire attached to the grille. Screen wire mesh must be porous. A one (1) inch wide metal strip to hold the screen wire to the bumper cover may be installed only on the outer edges of the grille opening
4. All air must enter the front of the car through the lower grille opening only
5. Installation of air directional devices, baffles, dividers, shields or the like will not be permitted in the grille or in the ductwork back to the radiator

## 2.12 - HOOD / ROOF

1. Hoods and roofs must be acceptable to OCS officials
2. The hood must close in the original position and maintain the original configuration
3. The hood must seal tight to the front bumper cover, fenders and the windshield at all times
4. Only flat hoods permitted on all models
5. Openings in the hood will not be permitted
6. The hood must have magnetic steel pin fasteners – at least three across the front and one at each rear corner
7. Steel or composite roofs will be permitted
8. The roof must be securely mounted to the roll cage at all four corners

## 2.13 - REAR DECK LIDS / TRUNKS

1. Rear deck lids must be 24 gage (.025 inch thick) magnetic sheet steel or minimum .040 inch thick sheet aluminum
2. Rear deck lids must have two magnetic steel pin fasteners
3. When closed, the deck lid must be sealed around the entire perimeter of the deck lid opening

## 2.14 - BUMPERS / BUMPER COVERS

1. The bumper covers must be acceptable to OCS officials
2. Front and rear bumper cover reinforcement bars must be installed and be acceptable to OCS officials
3. Reinforcement bars must be a minimum of 1 inch outside diameter and a minimum wall thickness of 0.060 inch to a maximum of 1-3/4 inches outside diameter with a maximum wall thickness of 0.095 inch magnetic steel tubing
4. The front and rear bumper covers must be solid, no holes allowed
5. All front and rear bumper covers must be a two piece design
6. On all approved 2007-2019 models the front bumper cover, when measured along the bottom edge of the bumper cover, from the center seam out to the wheel opening, must not be less than 51 inches on both the left and right side.
7. On all approved 2020 and newer models, the front bumper cover, when measured along the bottom edge of the bumper cover, from the center seam out to the wheel opening, must not be less than 56-1/2 inches on both the left and right side



## 3.0 - ENGINES

### 3.1 - CRATE ENGINES

#### 3.1.1 – GENERAL ELIGIBILITY

1. The following crate-type engines will be permitted and must be used as supplied by the manufacturer and/or per the specifications manual provided by the manufacturer:
  - i) General Motors #88958604
  - ii) General Motors #88958603
  - iii) General Motors #88958602
  - iv) Ford D347SR (upgraded camshaft allowed – per [Ford Performance Tech Bulletin dated 11-13-2018](#))
  - v) Ford S347JR
2. GM 603 and 604 crate engines may run beehive style valve springs – GM Performance P/N 12499224
3. Crate motor technical specifications will be based on the following manuals:
  - i) [GM Performance Parts Circle Track Crate Engine Technical Manual – Revised May 2010](#)
  - ii) [Ford Racing 347 Series Sealed Racing Engine Sanctioning Body Specifications Handbook](#)

### 3.2 - GENERAL MOTORS “HARRINGTON ENFORCER”

1. Must be used as supplied by the engine supplier and/or per the [HMS/Enforcer Engine 2020 Sanctioning Body Specifications Handbook](#). The engine may be purchased as a complete engine assembly or in kit form

### 3.3 - GENERAL MOTORS “UPGRADE” ENGINE

1. The General Motors “Upgrade” engine kit will be permitted and must use engine components as per the specifications manual provided
2. The Edelbrock part #2701 Performer and part #2975 Victor Jr. intake manifolds will be the only intake manifolds permitted and must remain as supplied without any modifications
3. The maximum rocker arm ratio permitted will be 1.6
4. All other engine components and specifications must meet the requirements as described in [NASCAR Rulebook Section 20F - 5 \(Detailed Engine Requirements\)](#)

### 3.4 - BUILT ENGINES (GM, DODGE, FORD)

#### 3.4.1 - GENERAL ENGINE CHARACTERISTICS

All of the following parts must be as manufactured:

##### 3.4.1.1 - ENGINE BLOCK

1. Material
2. Number of cylinders
3. Angle of cylinders
4. Cylinder bore centerline spacing
5. Number of main bearings and type
6. Number of camshaft bearings and type
7. Integral or separate cylinder sleeves
8. Location of the camshaft



## 9. Overall configuration

## 3.4.1.2 - CYLINDER HEADS

1. Material
2. Number of valves per cylinder
3. Type of combustion chamber
4. Location of the spark plugs
5. Arrangement of the valves
6. Valve location in relation to the cylinder bore
7. Angle of the valves
8. Type of valve actuation
9. Number of intake ports
10. Number of exhaust ports

## 3.4.2 - ENGINE DISPLACEMENT

1. Dodge 360 cu.in. displacement plus a maximum of 0.035 inch overbore per cylinder
2. The 355 cu.in. displacement Dodge engines will not be permitted
3. Ford 351 cu.in. displacement plus a maximum overbore 0.060 per cylinder
4. GM 350 cu.in. displacement plus a maximum overbore 0.060 per cylinder
5. The manufacturer's stock bore and stroke dimensions for the approved engines are as follows

Manufacturer	Bore	Stroke
Dodge	4 inches	3.580 inches
Ford	4 inches	3.500 inches
GM	4 inches	3.480 inches

## 3.4.3 - PISTONS / RODS

1. Any flat top three (3) ring round aluminum piston with three (3) rings in place will be permitted
2. Only magnetic steel piston pins maintaining a minimum diameter of 0.927 inch
3. Piston pin holes must be in a fixed location in the piston and the rods
4. Only two-piece insert style connecting rod bearings
5. Roller bearings are not permitted
6. Only solid magnetic steel connecting rods permitted
7. Titanium and stainless steel connecting rods are not permitted
8. Connecting rods must be machined to a normal machining schedule utilized for standard production parts
9. Piston guide rods will not be permitted
10. Spacers or shims will not be permitted between the piston boss and the connecting rod
11. Maximum side clearance between the connecting rods will be 0.035 inch
12. All rods must maintain the minimum / maximum rod length listed below

Manufacturer	Minimum	Maximum
Dodge	6.000	6.250
Ford	5.778	6.250
GM	5.700	6.250

## 3.4.4 - OIL PANS / COOLERS

1. Oil pans must be made of magnetic steel



2. The oil pan must be a wet sump type
3. All bolt holes and bolt hole flanges must be visible
4. Kick outs will not be permitted between the bolt hole flange and the top of the added sump
5. Spacers other than normal gaskets will not be permitted between the oil pan and the engine block
6. Engine oil coolers may be either air or water cooled
7. Oil coolers must be mounted forward of the firewall
8. No air ducts permitted to the oil coolers

### 3.4.5 - CYLINDER HEADS

1. Cylinder heads must be stock cast iron production only
2. Limited to (2) two valves per cylinder
3. Only magnetic steel valve springs permitted. Titanium valve springs will not be permitted
4. Port matching or flow work will not be permitted
5. Angle cutting of the cylinder head to the engine block mating surface will not be permitted
6. The cylinder head studs or bolt holes must not be offset or drilled off-center for the purpose of moving the head in any direction
7. "O" rings will not be permitted for sealing the cylinder head to the engine block
8. A maximum of three (3) valve seat angles plus the bowl cut will be permitted
9. When cutting the valve seat angles, stone or grinding marks will not be permitted above the bottom of the valve guide.
10. All cutting in reference to the valve job and bowl must be centered off the centerline of the valve guide
11. Radius cuts will not be permitted
12. Upon completion of the valve job, the bowl area above the valve seat to the bottom of the valve guide must still be the same configuration as far as the shape and finish as it was from the manufacturer
13. Surfaces and/or edges where the stone has touched must not be polished
14. Hand grinding or polishing will not be permitted on any part of the head
15. When replacement valve guide bushings are installed, the valve guide boss must retain the shape and configuration as it was from the manufacturer
16. Only GM (current design) part number 10134392, casting number 14011034, and part/casting number 12480034 cast iron cylinder heads with a 23 degree valve angle will be permitted
17. Only Dodge/Mopar W2 (current design) part number P5249769 or casting number 453262923 or 5249769, closed chamber with an 18 degree valve angle will be permitted
18. Only Ford part number M-6049-N351, cast iron cylinder heads with a 10 degree valve angle will be permitted
19. All valves must be identical appearance and construction as an OEM type valve
20. Titanium or any other exotic material valve will not be permitted
21. Cutting of the valves will not be permitted
22. Air direction devices will not be permitted on any of the valves' surfaces
23. The valve stems must have a minimum diameter of 0.302 inch in the area of the valve from the head of the valve to the bottom of the valve guide
24. Hollow valve stems will not be permitted

Maximum valve sizes as measured across the face of the valve are as follows (measured in inches)

Manufacturer	Intake	Exhaust
Dodge	2.020	1.625



Ford	2.020	1.600
GM	2.020	1.625

25. External modifications will not be permitted
26. All cylinder heads are limited to a minimum of 62cc combustion chamber
27. The combustion chamber may be machine cut on the walls beside valve only to equalize the chamber cc only
28. Any other machining or grinding will not be permitted
29. Removing material from the cylinder head with the intent of weight reduction will not be permitted

### 3.4.6 - CRANKSHAFT / HARMONIC BALANCER

1. Only a standard magnetic steel or cast iron production design crankshaft will be permitted
2. If an aftermarket crankshaft is used, it must be designed and manufactured the same as an OEM crankshaft
3. Stroke may not be increased or decreased, must remain stock
4. Balancing will be permitted
5. Only (2) two piece insert style crankshaft bearings permitted
6. Roller bearings are not permitted
7. Counterweights must be the same shape, must not be knife edged, undercut, or drilled to lighten the crankshaft
8. Counterweights may be polished
9. Rod bearing journals may be drilled
10. The main bearing journals must not be drilled

The following dimensions are the minimum measurements for a crankshaft

Manufacturer	Main Journal	Rod Journal	Weight
Dodge	2.500	2.100	50
Ford	2.750	2.100	50
GM	2.450	2.100	50

11. A harmonic balancer must be used and used as manufactured
12. Only standard OEM magnetic steel elastomer type harmonic balancers permitted
13. The use of "O" rings or other devices that deviate from the standard OEM elastomer rubber insert will not be permitted
14. Outer covers, lips, or other devices to prevent the separation of the outer ring will be permitted, provided they do not deviate from the standard OEM elastomer rubber insert
15. Electronic switching devices or sensors will not be permitted on the harmonic balancer, crankshaft, or flywheel

### 3.4.7 - CAMSHAFT / VALVE LIFTERS / ROCKER ARMS

1. Only magnetic steel camshafts will be permitted
2. The camshaft bearing journal size must be the same as the standard production design
3. Only standard production design timing chains will be permitted
4. Belt drive and gear drive systems will not be permitted
5. Camshaft timing must be fixed, variable timing devices will not be permitted
6. Only standard production sleeve type cam bearings will be permitted
7. Cam bearings must be the standard inside diameter
8. Cam bearing bores in the block may be machined a maximum of 0.030 inch oversize from standard bore



9. Needle or roller bearings will not be permitted
10. Camshaft rotation must be the same as an OEM design
11. Camshaft must retain the same firing order as a standard production OEM engine
12. Only solid magnetic steel or magnetic hydraulic lifters will be permitted
13. Rollers, ceramic, or mushroom type valve lifters will not be permitted
14. Any type of mechanical assistance exerting a force to assist in closing the valve and/or the pushrod, commonly known as rev kits, will not be permitted
15. Only flat tappet straight barrel lifters will be permitted
16. Lifters must be the same diameter and length as the standard production engine
17. Only magnetic steel one-piece, pressed together push rods permitted
18. Push rods may not have any moving parts
19. The standard production design guide plates are the only guide plates allowed
20. Steel or aluminum (1) one per valve rocker arm permitted
21. Roller rocker arms will be permitted
22. Rocker arms for Ford and GM must be an independent single stud type
23. Dual shaft rocker arms will not be permitted
24. Offset rocker arms will not be permitted with the exception of Ford part number M-6049-N351 and the Dodge part number P5249769 cylinder heads intake valves only
25. Stud girdles will be permitted
26. Dodge engines may mill the existing rocker arm single shaft support towers down and install a mounting plate that permits the rocker arms for a single cylinder to be mounted from the top for easy removal
27. Valve covers must be aluminum or steel, no magnesium or carbon fiber

#### 3.4.8 - INTAKE MANIFOLD

1. The only intake manifolds permitted are
  - i) GM Edelbrock part number 2101
  - ii) Dodge Part number P5249572AB This intake must be used with a 9.200-inch deck height engine block
  - iii) Ford performer intake manifold part number M-9424-C358
2. These intakes must remain as manufactured
3. Port matching or flow work will not be permitted
4. Intakes may not be painted or coated
5. Only (1) one standard flat gasket a maximum compressed thickness of 0.075 inch may be used between the cylinder head and the intake manifold
6. All Edelbrock part numbers are current design and older designs with the same part number will not be permitted
7. On all intakes the front to rear center divider may be machined to a minimum width of 1/8<sup>th</sup> inch at the top of the divider for clearance. The machining must an angle cut from the minimum width on each side at the top of the divider and blended to the manufactured width on each side a maximum of 1/2 inch down into the plenum area
8. This is the only machining allowed on the intake manifold. The rest of the intake must remain as manufactured

### 3.5 - GENERAL ENGINE RULES (ALL ENGINES)

#### 3.5.1 – CARBURETOR GENERAL ELIGIBILITY

1. Holley 390 CFM 4-barrel carburetor (Part# 80507-I) may be used on the following crate engines:
  - i. General Motors #88958603
  - ii. General Motors #88958602
  - iii. Ford S347JR
2. Holley 500 CFM HP 2-barrel carburetor (HP Part# 80583-1) and Holley 500 CFM Ultra XP 2-barrel (Part# 0-4412HB, 0-4412HBX, 0-4412BK, 0-4412BKX) may be used on the following engines:
  - i. General Motors “Harrington Enforcer”
  - ii. General Motors “Upgrade” Spec Engine
  - iii. Built Engines (GM, Dodge, Ford)
  - iv. General Motors #88958604
  - v. Ford D347SR
3. Any carburetor that tries to pull air from anywhere other than through the venturi will be ruled as a non-approved part resulting in disqualification

#### 3.5.2 - CARBURETOR SPACER PLATE / GASKETS

1. A one-piece solid aluminum spacer plate with a maximum thickness of 1” may be used with the 390 CFM 4-barrel carburetors. Spacer plates must be straight/open style with no tapers. No super-suckers
2. Only the OCS supplied track spacer plate will be allowed on all 500 CFM 2-barrel carburetors
3. The spacer must be centered on the intake manifold
4. Tapers, bevels, or any other modifications are not allowed
5. A one-piece gasket with a maximum thickness of 0.065 inch must be installed between the carburetor and the spacer plate
6. A one-piece gasket with a maximum thickness of 0.065 inch must be installed between the spacer plate and the intake manifold
7. As with the carburetor, any plate or gasket that allows air into the plenum area will be ruled a non-approved part resulting in disqualification

#### 3.5.3 - CARBURETOR REWORK GUIDELINES

1. **Main body** - No polishing, reshaping, grinding or plugging holes
2. **Choke plate** - May be removed but screw holes must be permanently sealed
3. **Choke horn** - Must NOT be removed
4. **Boosters** - Size and shape must not be altered. Height and location of the boosters must remain as manufactured. Booster casting must be visible and remain as manufactured. Boosters must be wired together and held with a small amount of epoxy so as to prevent a drop of the booster into the throttle shaft and throttle plate areas
5. **Venturi** - May not be altered or reshaped. Must remain a circular (round) cross section. Casting ring must not be removed
6. **Base plate** - Must be used as manufactured. The position of the throttle bores in the throttle plate must remain as manufactured. Base plate may not be altered in shape or size. All vacuum holes must be threaded and plugged or sealed
7. **Butterflies** - May not be thinned or tapered. Idle holes may be drilled in butterflies
8. **Throttle shafts** - Must remain stock and cannot be thinned or cut in any manner



9. **Metering blocks** - Only metering blocks specific to the carburetor being used is acceptable. Number of holes and passages, and their location, in the block must remain as manufactured. Adding or plugging of holes and passages will not be permitted
10. **Accelerator pump** - Only replacement parts specific to the carburetor in use will be permitted. Retaining screw may not be drilled for a discharge passage. Pump diaphragm must be 30cc and remain as manufactured. A hole no larger than .050 in diameter may be drilled in accelerator pump fuel passage on float bowl side of metering block above fuel level to relieve siphoning through the nozzles.

### 3.5.4 – AIR FILTER

1. The air filter housing must not be removed during practice or competition
2. Performance enhancing additives or chemicals will not be permitted in the air filter housing or on the air filter itself
3. Only a round dry type, unaltered paper or dry type gauze element maintaining a minimum of 12 inches and a maximum of 14 inches in diameter will be permitted
4. The air filter must maintain a minimum height of 1 ½ inch and a maximum height of 4 inches
5. All air must pass through the air filter element
6. The air filter element must not be sprayed or soaked with any type of chemical or liquid
7. Only a round commercially manufactured, stamped, or spun metal air filter housing will be permitted
8. The top and the bottom of the air filter housing must be solid and must be the same diameter
9. Lips or expanded edges will not be permitted
10. The center stud hole in the top of the air filter housing must not be recessed more than (1) one inch
11. The air filter housing must be the same diameter as the air filter element
12. The air filter housing must be centered and sit level on top of the carburetor
13. The bottom of the air filter housing must be lower than the top of the carburetor air horn
14. Tubes, funnels, or any other device that may control air flow will not be permitted inside the air filter housing, or between the air filter housing and the carburetor

### 3.5.5 - IGNITION SYSTEM

1. Electronic distributors will be permitted
2. All electronic distributors must be stock type housings, equipped with a magnetic pickup, gear driven, and mounted in the stock location
3. Single or dual point camshaft driven distributors will be permitted
4. Only (1) one ignition coil permitted, and it must be mounted on the engine side of the firewall or on an ignition mounting plate located inside the car
5. Only (1) one ignition amplifier box permitted *(if used)*
6. Amplifier box must be mounted on the right-hand side of the dash or on the ignition mounting plate
7. Only analog amplifier boxes and rev limiters which do not contain programmable or memory circuits will be permitted
8. Modifications to the amplifier boxes will not be permitted
9. Computerized, multi coil, dual electronic firing module amplifier box or crank trigger systems will not be permitted
10. Magnetos will not be permitted
11. Adjustable timing control systems will not be permitted
12. Retard or ignition delay devices will not be permitted
13. External rev limiters will not be permitted unless an amplifier box is not used



14. The ignition amplifier box must have a (6) six pin female connector attached to its output leads to facilitate manual operation and testing of the ignition components
15. The wiring sequence must be the same as Ford or GM ignition amplifier
16. A heavy red wire positive and a heavy black wire negative will be permitted, any other wire will not be permitted to enter or exit the ignition amplifier box
17. All ignition wiring harnesses, switches, and connectors must be accessible to track officials
18. All wiring must be point to point and each wiring connection must be easily traceable
19. Taping or heat shrink wrapping of wires will not be permitted

#### 3.5.6 - INTERRUPT SWITCH

1. An optional auxiliary on/off button that will shut off the ignition system should be mounted on the steering wheel within reach of the drivers thumb when the hands are in the normal driving position

#### 3.5.7 - ALTERNATOR

1. A single alternator system may be used with an internal voltage regulator and one output wire
2. The alternator system, when used, must be mounted on the front of the engine in the standard location with the center of the alternator higher than the center of the water pump
3. Alternator not to exceed 14.9 volts of output

#### 3.5.8 - STARTER

1. The starter must be in working order and in the stock location
2. Only standard factory OEM type production starters will be permitted
3. After the race is underway, cars may be started by hand pushing in the pit area only
4. Under no circumstances is the car permitted to be pushed out to the racetrack from the pit area

#### 3.5.9 - BATTERY

1. The battery must be installed in an enclosed battery box complete with a cover
2. The battery must be located behind the front spindle in front of the firewall or in front of the rear axle housing behind the rear fire wall
3. The battery box must be mounted inside the outside edge of the frame rails and it must not extend below the bottom of the frame rail
4. Only one battery with a maximum normal voltage of 12 volts will be permitted
5. Accessories to regulate the power supply will not be permitted
6. Each battery must be of the gel cell or absorption glass mat design
7. The battery must weigh a minimum of 17 pounds

#### 3.5.10 - ELECTRICAL SWITCHES / ACCESSORIES

1. All electrical switches must be operable and must be located on the dash panel within reach of the driver
2. No switches allowed on the left side door area
3. A master cut off switch must be located in the center of the dash
4. The master cut off switch must be wired to the battery cable and alternator lead and in a manner that would cut all electric power in the car
5. All brake cooling fan switches must be mounted on the dash panel and labeled brake cooling fan
6. All electrical switches must be labeled



7. Cars will not be permitted to carry on board computers, automated electronic recording devices, timing devices, electronic actuated devices, microcontrollers, processors, recording devices, electronic memory chips, traction control devices, or digital readout gauges
8. The tachometer control or reset switches must be built into the unit
9. All electronic wiring harnesses switches and connectors must be acceptable to track officials
10. All wiring must be point-to-point and each wiring connector must be easily traceable and removal from the car for inspection
11. Timing and scoring transponder and bracket is mandatory and must be installed on the right side of the rear sub frame rail beside the fuel cell
12. The transponder bracket must be mounted vertically with the square tab on the bottom
13. Only one two-way radio and one radio push to talk button will be permitted in the car
14. The in-car radios must be analog only and must not be capable of transmitting or receiving digital signals

#### 3.5.11 - ENGINE COOLING SYSTEM

1. Only aluminum or cast steel mechanical water pumps in the stock location turning the same direction of crankshaft rotation will be permitted
2. Water pump impellers may be altered
3. Coolant must flow in the same direction as a stock engine
4. Only standard production V-type or flat type V ribbed belts and pulleys will be permitted

#### 3.5.12 - FAN

1. Engine driven fans must be operational and driven from the crankshaft
2. An electric engine cooling fan is permitted
3. When an electric engine fan is used, it must be mounted parallel to the radiator
4. If an engine driven fan is used, it must be standard magnetic steel and with a minimum of four blades
5. Removal of the fan blades or fan belt will not be permitted
6. The minimum diameter of the fan must not be less than 14 inches
7. The fan blades must be a minimum of 3 ½ inches wide
8. Flat fan blades will not be permitted

#### 3.5.13 - FAN SHROUD / DUCTS

1. When an electric fan is used, shrouds or panels rearward of the radiator will not be permitted
2. When a standard steel fan is used, the shroud must follow the entire circumference of the fan and must not exceed more than 1-inch rearward of the trailing edge of the fan blade
3. A rectangular shaped metal, flexible rubber, or plastic type air box the width the radiator must be attached from the front of the bumper cover to the trailing edge of the radiator
4. The bottom and the sides of the air box must be straight
5. Installation of air directional devices, under pans, baffles, dividers, shields, or any other air directional devices will not be permitted
6. Any part or component of the car and that has been installed or modified to enhance aerodynamic performance will not be permitted
7. All air that enters a grill area must flow through the radiator core



### 3.5.14 - RADIATORS

1. The radiator must remain stock appearing and remain in the standard position not to exceed 2 inches from vertical
2. Radiator dust or shaker screens will be permitted
3. The radiator overflow tube may be located at the rear cowl area ahead of the windshield directed upward or may be located to the rear of the car
4. All radiator cooling tubes must be operational
5. All radiator cooling fins must be evenly spaced top to bottom and side to side and must remain at a 90° angle to the side tanks
6. Radiator cores and tanks must be constructed from the aluminum material

### 3.5.15 - ENGINE LUBRICATION

1. Dry sump or air over will not be permitted
2. External oil pumps will not be permitted
3. Oil drain lines will not be permitted
4. Inside the valve cover oiling systems will not be permitted
5. Quick disconnect fittings will not be permitted
6. Heating pads, blankets, or any other heating devices will not be permitted for warming the oil

### 3.5.16 - EXHAUST HEADERS

1. The exhaust headers must be manufactured using the magnetic steel primary tube size of 1-5/8 inches outside diameter with a maximum length of 30 inches cut off square
2. Maximum outside diameter of collector tube will be 3 inches
3. No cones or pyramids will be permitted
4. The header collector pipe must not be reduced at any point between the primary tubes and exhaust pipe
5. Primary tubes must exit down and turn to the rear into the collector pipe
6. Those tubes that do not must be mounted parallel or angle down in reference to the cylinder head then turn down into the collector pipe
7. The maximum thickness permitted on the header mounting flange will be 3/8 inch
8. Stainless steel, stepped, or 180° merge or crossover equalizer tube systems will not be permitted
9. Spacers will not be permitted between the cylinder head and exhaust header
10. Only one gasket, a maximum of .075-inch thickness, may be used between the cylinder head and exhaust header
11. Thermal wrap will not be permitted
12. Scavenge lines and other hoses will not be permitted between the engine and the exhaust system
13. Internal coating of the exhaust system will not be permitted

### 3.5.17 - EXHAUST PIPES

1. Exhaust pipes from the exhaust header collector must not be larger than 4 inches or smaller than 3 inches outside diameter
2. The exhaust pipe must be the same size the entire length of the pipe
3. Only round exhaust pipes will be permitted, may be flattened to an oval shape minimum of 1 ½ inches high
4. The circumference must be the same as the round exhaust pipe
5. Any device to reduce the interior diameter of the exhaust pipe will not be permitted

6. The exhaust pipe must exit the collector pipe and turn either right or left and may join into one pipe and must exit the car either beneath or on top of the frame rail
7. When the two-into-one exhaust pipe system is used, all exhaust pipes must be routed beneath the transmission and exit to the outside of the car with a single pipe behind the driver and in front of the rear wheels
8. Any exhaust pipes exiting through the outside of the car under the raised floor pan must exit the car through the right-side door or quarter panel and must be completely sealed and may not extend outside of the car more than ½ inch
9. Frames, rocker, and quarter panels must not be notched to accommodate exhaust pipe
10. Exhaust pipes must be made of magnetic steel fastened into the header collector and to the frame in a secure manner
11. Thermal wrap may be used on the exhaust pipe under the driver compartment only
12. Crossover pipes or merge systems will not be permitted
13. Heat shields will not be permitted

#### 3.5.18 - ENGINE LOCATION

1. All GM engines must be located so that the center of the forward most spark plug hole on the right-hand side of the engine block is in line or a maximum of one (1) inch forward of the center of the right front upper ball joint
2. The Ford and Dodge engines must be located so that the front of the cylinder head on the right-hand side is in line or a maximum of one (1) inch forward of the right-hand upper ball joint
3. The centerline of the crankshaft must be the centerline of the frame, front sub frame and tread width, front and rear

#### 3.5.19 - ENGINE GROUND CLEARANCE

1. The engine ground clearance will be measured from the center of the crankshaft accessory drive bolt
2. A minimum of 12 inches
3. A maximum of 13 inches
4. Engine ground clearance will be measured with the driver in the car

#### 3.5.20 - ENGINE MOUNTS

1. All engine mounts must be acceptable to OCS officials
2. All engine mounts must be reinforced steel or aluminum
3. All engine mounts must be securely bolted
4. Adjustable engine mounts are not permitted

## 4.0 - DRIVELINE

### 4.1 - CLUTCH

1. Only mechanical, hydraulic, or cable operated clutches will be permitted
2. Pneumatic assistant clutches will not be permitted
3. The clutch assembly must be bolted to the flywheel located inside the bell housing
4. Multiple disc clutches will be permitted up to a maximum of three discs
5. The disc clutch housing assembly and cover must be made from aluminum or steel



6. The clutch cover must be push type design
7. Only solid magnetic steel disc and solid magnetic steel floater plates will be permitted
8. The minimum clutch diameter is 5 ½ inch
9. Clutches must be positive engagement design. Slider or slipper clutch designs will not be permitted

## 4.2 - FLYWHEEL

1. Only a magnetic steel flywheel/flexplate, bolted to the crankshaft, will be permitted
2. Holes and/or other modifications that, in the judgment of Track Officials, have been made with the intent of weight reduction will not be permitted
3. The minimum starter ring gear outside diameter permitted will be 12-7/8 inches for the General Motors and Dodge models and 13 ¼ inches for Ford models **except as specified below.**
4. **As an option, the following flywheels will be permitted. When used they must remain as manufactured with no modifications.**
  - Tilton Engineering 51-052-5 (104T) Early General Motor
  - Tilton Engineering 51-053-5 (104T) Late General Motors (Neutral)
  - Tilton Engineering 51-054-5 (104T) Late General Motors (Ext. Balance)
  - Tilton Engineering 51-055-5 (104T) Ford (Small block)

## 4.3 - BELL HOUSING

1. Only special production all magnetic steel bell housings will be permitted
2. The maximum distance from the machined surface at the back of the engine block to machined surface at of the front of the transmission case will be 6-3/8 inches including any spacers
3. Bell housings must be the same design as an OEM type production bell housing
4. The bottom of the bell housing may be cut off horizontally a maximum of 1 inch below the bottom of the transmission
5. Cutting on the side of the bell housing above this cut-off line will not be permitted
6. Holes or other modifications that have been made with the intent of weight reduction will not be permitted
7. The starter mounting position must remain on the right side for Ford and General Motors and on the left side for Dodge

## 4.4 - TRANSMISSION

1. Only a standard production OEM type Muncie or T-10 manual four speed transmission will be permitted
2. Special production transmissions will not be permitted
3. Top loader type transmissions will not be permitted
4. All forward gears and reverse gears must be in working order
5. Fourth gear must be 1.00:1 (direct)
6. Transmission gear ratios between 1.00:1 and 1.23:1 will not be permitted
7. Over drive gears will not be permitted
8. Fourth gear must be the primary gear engaged on the track during competition
9. Only cast iron or aluminum transmission housings will be permitted
10. The rear housing of the transmission may be changed, but must be cast-iron or aluminum and must be similar in design to the standard production OEM transmission
11. The side cover must be the same design and operation as a standard production OEM transmission



12. Billet or special production side covers will not be permitted
13. Holes other modifications in the transmission case for internal components that have been made with the intent of weight reduction will not be permitted
14. Only OEM type steel angle cut forward gears made for the transmission being used will be permitted
15. Straight cut forward gears will not be permitted
16. Synchronizers must be standard production type
17. All forward and reverse gears must be operational from inside the driver's compartment
18. All transmissions must have input shaft and its main gear constantly engaged
19. Five speed transmissions with gears removed will not be permitted
20. Quick change transmissions will not be permitted
21. Only fire-resistant type shifter boots secured with fasteners will be permitted
22. External oil pumps and coolers will not be permitted
23. Transmission lubricating system must be the wet sump design only
24. Heating pads, blankets, or any other heating devices will not be permitted for warming the transmission
25. Transmission vent or breather hose and filter assembly must be located within the transmission tunnel and must not extend forward of the vertical front firewall
26. Remote transmission reservoirs or fill tubes will not be permitted
27. All transmissions must contain a minimum of 1 quart of lubricant

#### 4.5 - DRIVE SHAFT

1. The drive shaft universal joints and yokes must be magnetic steel and be similar in design to the standard production type
2. The drive shaft must be made of one-piece magnetic steel and must be either 2 ¾ inch or 3 inches in diameter
3. All drive shafts must be painted white
4. Two 360° solid magnetic steel brackets with no holes or slots no less than 2 inches wide and ¼ inch thick must be placed around the driveshaft
5. The front bracket must be welded to the rear suspension cross member and the rear bracket must be welded or bolted with a minimum of two (2) 3/8 inch diameter bolts on each side to the horizontal bar

#### 4.6 - REAR AXLE

1. The axle housing must be centered between the frame rails plus or minus ½ inch
2. If the Detroit locker ratchet type differential is used, when one wheel is jacked up with the transmission engaged, the wheel must turn by hand for one full 360° turn while the opposite wheel remains stationary
3. If the spool type or solid rear end is used, when jacked up both wheels must rotate the same direction and the same rotation at all times; when one wheel is jacked up, it must not rotate in any direction
4. Only quick change rear end center sections with a minimum cross height of 12 inches at the center of the rear axle with a side bell minimum diameter of 12 inches and magnetic steel spur gears on the backside will be permitted
5. Only a magnetic steel lower jack shaft and drive shaft yoke will be permitted in the quick change and rear center section
6. All cap screws attaching the ring gear to the differential locker housing must be installed at all times
7. Full floater rear axle must be used but must not alter the tread width or general appearance
8. Only solid one-piece magnetic steel axle housings will be permitted

9. Bolt on spindles will be permitted
10. Axle housings must not be altered and must remain as manufactured
11. Weight must not be added internally or externally to the axle housing or suspension parts
12. Only one-piece magnetic steel axles will be permitted
13. Crown type axles will not be permitted
14. Cambered rear axle housings or rear axle housings with toe will not be permitted
15. Only metal drive plates the same thickness on the left and right will be permitted
16. The drive plates must be a one-piece design with a single internal spline
17. Grease fittings will not be permitted on the drive plates or axle caps
18. Rear axle housing support bars or alignment bars will not be permitted
19. External oil pumps and oil coolers will not be permitted
20. Rear end lubricating system must be the wet sump design only
21. Heating pads, blankets, or any other heating devices will not be permitted for warming the rear end assembly
22. All rear axle housings must contain a minimum of 2 ½ quarts of lubricant
23. All drivetrain fasteners and mounting hardware must be made of solid magnetic steel

#### 4.7 - WHEELS

1. Only 15-inch, five lug, magnetic steel wheels with a 10-inch rim width and a reinforced center will be permitted
2. All wheels must be the same width and offset
3. Only solid one-piece heavy duty 5/8-inch magnetic steel lug bolts and standard 1-inch hex by .065-inch thick fully threaded solid lug nuts will be permitted
4. Bleeder valves or air bleeds will not be permitted

### 5.0 - CHASSIS / FRAMES

#### 5.1 - FRAME CONSTRUCTION

1. All frames must be acceptable to OCS officials
  - i. If there are any questions or discrepancies surrounding the below frame construction guidelines, please reference the current NASCAR LMSC rulebook
2. All frame components must be made of magnetic steel and welded
3. Sub frames must not be offset from the main frame centerline
4. The front and rear sub frames must be parallel both vertically and horizontally to the mainframe rails
5. Holes or other modifications to the frame, frame support, front and rear sub frame, cross members, or any other frame component that were made with the intent of weight reduction will not be permitted
6. Tubing being used for frame rail sections must be the same size and thickness the entire length
7. The main frame must consist of two side rails of magnetic steel box tubing of equal height, width, and length on each side
8. The main frame rail must be parallel and located equal distance from the chassis centerline
9. When measured from the outside edge of the left side main frame rail to the outside edge of the right-side main frame rail, a minimum width of 57 inches and a maximum width of 64 inches must be maintained on the frame



10. A cross member, which may include rear suspension truck trailing arm mounting brackets, must include the front driveshaft loop
11. A General Motors type front steer to tubular front sub frame must be constructed using 2" x 4" high magnetic steel box tubing with a wall thickness of .083 inch
12. The front sub frame left and right-side connecting rails must be located at or near the front ends of the main frame rails
13. The front sub frame rails must continue forward from the connection rails incorporating attachments for the steering linkage, suspension, and the engine ending at a location forward of the steering gear mount and sway bar tube
14. The mounting location of the connecting rails must match on the left and right side
15. The measurement from the front of the front connecting rails to the rear of the rear connection rails must be the same left and right side and be in the same location from side to side and front to rear
16. The right and left side front sub frame rear side rails must rise going forward between 22 and 25°
17. The right and left side front sub frame rails must be a minimum length of 27 inches and the maximum length of 29 inches
18. The front sub frame rails must be parallel to the main frame rails and located equal distance from the chassis centerline and a measurement of 32 inches from the center of the left side of frame rail to the center of the right side of frame rail measured at any point from the rear of the spring mount to the front of the front of the sub frame assembly
19. Optional right and left side front frame extensions may be welded or bolted to the front sub frame forward side rails
20. The left and right sides of the lower suspension cross member must be connected under the engine oil pan by either securely welding or using the one by one three-piece bolt in and out cross member
21. A Ford type rear steer to tubular front sub frame must be constructed using 2" x 4" high magnetic steel box tubing with a wall thickness of .083 inch
22. The rear sub frame side rails must be a minimum of 2 x 3" and magnetic steel box
23. The rear sub frame rail forward ends must be welded to the left and right-side connecting rails
24. The measurement from the front of the front connecting rails to the rear of the rear connecting rails must be the same on the left and right side and must be in the same location side to side and front to rear
25. The mounting location of the connecting rails must match left and right side
26. The rear sub frame rails must extend rearward from the connecting rails up and over the rear axle and down to the fuel-cell mounting location the rearward to the rear cross member
27. The rear sub frame rails must be mounted parallel to each other left side to right side
28. The sections above the rear axle next to the fuel cell must remain parallel to the mainframe rails
29. Left-side and right-side rear sub frame rails must be located equal distance from and parallel to the chassis centerline
30. The rear sub frame must incorporate the mounting locations for the rear springs, shocks, panhard bar and fuel cell
31. A round tubular reinforcement bar construction of a minimum of 1 ½ inches outside diameter and a minimum wall thickness of .083 inch must extend below the rear frame cross member
32. This reinforcement bar must be the width of the rear sub frame side to side and must extend down to a location that is flush with the bottom of the fuel cell recess can
33. Two vertical supports must be installed evenly spaced between the rear sub frame rails and to the bottom of the rear sub frame near the cross member and to the top of the reinforcement bar

34. Two support bars must be constructed and welded in place between each lower corner of the reinforcement bar and angled up to the bottom surface of the rear sub frame near the fuel cell

## 5.2 - TREAD WIDTH

1. Magnetic steel or aluminum wheel spacers will be permitted to utilize the maximum allowable tread width
2. Spacers, if used, must be the same thickness left and right, however the front and rear do not have to be the same thickness
3. Tread width on the front will be measured 13 inches up on the right front tire and 10 inches up on the left front tire with the maximum allowable measurement being 65 ½ inches. This measurement will be taken on the tire sidewall inside the RF and outside the LF. There will be no tolerance beyond 65 ½ inches

## 5.3 - WHEELBASE

1. The wheelbase will be 105 inches with a ½ inch tolerance left and right
2. The wheelbase will be determined by stringing the left-hand side and taking a measurement, and then measuring the right-hand side

## 5.4 - GROUND CLEARANCE

1. The frame rails, sheet metal, front air dam extensions, and rocker panel extension ground clearance must be a minimum of 4 inches
2. The front air dam ground clearance must be a minimum of 4 inches
3. The exhaust pipe ground clearance must be a minimum of 3 inches
4. The centerline of the crankshaft must be a minimum of 12 inches and a maximum of 13 inches
5. Ground clearance will be measured with a driver in the car
6. All body measurements will be made with the ground clearance at 4 inches

## 5.5 - HANDLING DEVICES

1. Hydraulic or electric weight shifting devices will not be permitted at anytime
2. Any device/mechanism (electronic, pneumatic, hydraulic, remote control, etc.) that changes the handling characteristics, weight distribution, or height of the car from inside the driver's compartment will not be permitted

## 5.6 - ADDED WEIGHT

1. All added weight must be in the form of lead blocks
2. All added weight must be painted white and have your car number on it
3. Any car that does not have their numbers on the lead attached to the car will be fined
4. Weight must be securely mounted
5. Weight that becomes dislodged or falls off cannot be added after the race. If your car is light, even if weight has fallen off, you will be disqualified
6. Weight may not be added inside the driver's compartment
7. Any added weight must be between the centerline of the front spindles and the centerline of the rear axle

## 6.0 - SUSPENSION

### 6.1 - REAR SUSPENSION TRAILING ARMS

1. Only a conventional two link truck trailing arm type with the same configuration on both sides, or a three-link passenger car type suspension will be permitted
2. I-Beam style truck trailing arms may be used
3. Truck trailing arms must be constructed using two (2) C-channels of a minimum one (1) inch in width by three (3) inches in height magnetic steel with a minimum wall thickness of 1/8 inch meeting the ASTM-500 specification, welded back to back, creating a vertical wall of two (2), 1/8 inch minimum wall thickness with a completed overall size of two (2) inches in width by three (3) inches height
4. Both the left-side and right-side truck trailing arms wall thickness must be the same. Truck trailing arms must be welded on the top and bottom with a 1/2" minimum stitch weld every eight (8) inches maximum along the entire length of the truck trailing arm
5. The minimum thickness of truck trailing arm material acceptable to Track Officials will be 0.117 inch
6. Box tube truck trailing arms will not be permitted
7. Adjustable truck trailing arms will not be permitted
8. Bushings for truck trailing arms that allow excessive vertical or horizontal movement will not be permitted
9. Truck trailing arms must be attached to the rear axle housing with one solid U-bolt over the axle housing and through the truck trailing arm with nuts securing the truck trailing arm to the axle housing
10. The rear truck trailing arm mount where the truck trailing arm attaches to the rear axle housing must be the same on both left and right side when measured from the outboard wheel mounting surface of the rear axle assembly to the alignment pin for the truck trailing arm
11. Any spacers used between the rear axle housing and the truck trailing arms must be made of magnetic steel
12. Any devices that permit movement or rotation of the rear housing will not be permitted
13. Truck trailing arms must be attached to the chassis in the front with monoballs mounted in a solid one-piece truck trailing arm welded sleeve
14. The monoballs must be the same on both sides
15. An eccentric type adjuster may be used only on one of the front truck trailing arm mounting points
16. Adjustable insert plates may be used on the front truck trailing arm mounting point
17. The maximum horizontal adjustment will be limited to 3/4 of an inch
18. Truck trailing arms using heim joints will not be permitted
19. The front truck trailing arm mounting brackets must be one piece welded magnetic steel
20. Hydraulic spring-loaded mounting points or links will not be permitted
21. The front truck trailing arm mounting brackets must be the same distance from the centerline of the main frame rails
22. Mounting points on the rear axle housing must be evenly spaced and welded to prevent movement and must be equal distance from the centerline of the rear frame rails
23. Truck trailing arms when measured from the center of the front mounting bushing to the center of the rear axle in a straight line must be within 1/4 inch of equal length, a minimum length of 45 inches and a maximum length of 51 inches

24. Holes or other modifications that have been made with the intent to reduce weight will not be permitted
25. Passenger car type (3-link) trailing arms must be the same length and also a maximum of 25 inches in length measured at the center of the mounting holes
26. Passenger car type (3-link) trailing arms must be parallel with each other when attached to the frame and rear axle housing

## 6.2 - PANHARD BAR

1. The rear axle housing must be held in the center of the car side to side by a single one-piece straight tubing panhard bar, with adjustable heim joints mounted behind the rear axle connected to the frame on the right and the axle housing on the left side
2. The difference in the mounting location of a panhard bar centerline forward from the centerline of the rear axle assembly must be not be more than 1 ½ inch
3. Panhard bar or panhard bar brackets or other components must not be lower than the lowest edge of the wheel rim

## 6.3 - COIL SPRINGS / SPRING MOUNTS / JACKING BOLTS

### 6.3.1 - GENERAL

1. Only one (1) travel limiting device per front wheel allowed (if you coil bind, you may not use bump stops; if you use bump stops, you may not coil bind)
2. Travel limiting devices (bump stops) on the rear suspension will not be permitted
3. Cars with coil-over suspension will be allowed an external travel limiting device
4. The mounting hardware must be made of metal and mounted in the same location a shock would be mounted in a conventional system
5. Remote adjusters for the travel limiting devices will not be permitted
6. Bump stops but must be acceptable to OCS Officials
7. All coils of the spring must be active
8. No pig tail springs allowed
9. Any devices such as chains or cables that limit the suspension travel either up or down will not be permitted
10. When jacking the car, a minimum of 2 inches of chassis movement is required before movement of axle/tire assembly

### 6.3.2 - COIL-OVER SPRINGS

1. Front coil-over springs must be mounted to the stock appearing lower in A-frame over the centerline of the lower ball joint
2. The front coil-over assembly must be mounted through the upper A-frame and remain vertical front to rear with the lower mount
3. Rear coil-overs must be permanently mounted on the outside of the rear sub frame rails in the same location on the left and right side
4. Adjustable mounts of any type will not be permitted
5. The use of jacking bolts on the coil-over assembly will not be permitted
6. Coil-over spring seats, if used, must be flat nylon or flat steel washer type or top hat style only
7. Thrust-type bearing plates will be permitted on the spring seats



8. Load centering spring perches of any type, including but not limited to hydraulic or rubber will not be permitted
9. The coil-over springs must not exceed a maximum outside diameter of 4-3/4 inches for the entire length of the spring
10. The coil-over springs may be less than the nominal three (3) inches inside diameter at each end only to match the spring seat diameter
11. The free height of the bare front coil-over springs must not be more than 16 inches and must not be less than 10 inches
12. The free height of the bare rear coil-over springs must not be more than 16 inches and must not be less than 12 inches
13. All coils must be evenly spaced after the first coil at the end of the spring
14. Strut bars will not be permitted for mounting the coil-overs
15. Only one spring per wheel permitted
16. Coil-over springs must be heavy duty magnetic steel
17. Progressive or digressive rate springs will not be permitted
18. Only one spring rubber insert not to exceed one full coil will be permitted

#### 6.3.3 - FRONT COIL SPRINGS

1. The front coil spring must be heavy duty magnetic steel
2. All coils must be evenly spaced after the first coil on the closed end of the spring all coils must be wound producing the same inside and outside coil diameter plus or minus 1/8 inch
3. The height of the coil springs is not to be more than 10 ½ inches or be less than 7 ½ inch
4. All front coil springs must maintain a minimum outside diameter of 5 ¼ inch and a maximum outside diameter of 5 ¾ of an inch
5. Progressive or digressive rate springs will not be permitted
6. The bottom front coil spring mount must be located on the lower A-frame, and the top mount must be a bucket type and welded to the front sub frame rail. Mounts must be the same on both sides
7. Monoballs, excessive taper, bevels, or other devices at the front jacking bolt, the front coil spring mounting plate, the front coil spring mounting bolt, or the front upper spring mount will not be permitted
8. The hole in the front coil spring mount plate must be round and must not be larger than 1/16 inch diameter than the front coil spring mounting plate bolt
9. The upper and lower coil spring mount must support the front coil spring for 360°
10. Jacking bolts must have a minimum diameter of 1-1/8 inch inches
11. The jacking bolts must be installed using a solid threaded sleeve and be completely welded to the frame spring bucket
12. Jacking bolts and the threaded sleeve must be the same thread configuration on the left and right side
13. Front jacking bolts will not be permitted to be located through the front frame rails
14. Only one spring rubber insert not to exceed one full coil will be permitted
15. The front jacking bolts must be located in the same location on both sides

#### 6.3.4 - REAR COIL SPRINGS

1. The rear coil springs must be heavy duty magnetic steel
2. The closed end of the coil springs must not have a gap larger than 1/8 inch
3. All coils must be evenly spaced between the top and bottom closed end of the spring
4. All coils must be wound producing the same inside and outside diameter





5. The free height of a rear coil spring must not be more than 14 inches and must not be less than 11 inches
6. Coil spring mounted on the truck trailing arms must not be located outside the rear frame rail kick ups and must be equal distance from the center line of the rear frame rail
7. All upper and lower rear coil spring mounts must be located between the rear frame side rails
8. Only one rear jacking bolt frame mount per side will be permitted
9. Jacking bolts will not be permitted to be located through the frame rails
10. The rear coil spring lower mounts must be located in front of the rear axle housing
11. The rear coil spring upper mounts must be located and welded on the chassis directly above the lower mounts
12. Only one spring rubber insert not to exceed one full coil will be permitted
13. Progressive or digressive rate springs will not be permitted
14. The spring must make 270-degree contact with the upper and lower spring seat

## 6.4 - SWAY BARS

1. Pre-loading of the sway bar beyond the limits of the driver's weight will not be permitted
2. The front sway bar must freely rotate in their mounts
3. The movement of the front sway bar arms must not be restricted beyond that of normal use
4. The main body of the front sway bar must be one-piece magnetic steel and must be mounted centerline under the front sub frame
5. The sway bar must be mounted perpendicular to the front sub frame rails
6. The maximum diameter of the front sway bar splined ends will be 1 ¾ inch
7. The nominal length of the sway bar will be 37 ½ inches
8. The maximum inside diameter of the sway bar will be ¾ inch for the entire length of the sway bar
9. The sway bars must be constructed of metal and splined for attaching to the main body of the sway bar
10. Only one sway bar arm per side may be used
11. The minimum length of sway bar arms will be 11 inches and the maximum length of the sway bar arms will be 16 inches
12. The sway bar arms may be angled or straight, but must be the same length and configuration on both ends
13. The sway bar arms must be mounted on the front edge of the lower A-frame at the same location on each side
14. The sway bar arms must not extend rearward of the mounting location on the front edge of the lower A-frame
15. Quick release pins will not be permitted
16. Sway bars will not be permitted on the rear suspension

## 6.5 - SHOCK ABSORBERS

1. No external lines or reservoirs will be permitted
2. No external adjusters permitted
3. Only a single one-piece piston is permitted
4. No base valves permitted
5. The shock absorber nitrogen gas pressure must not be less than 50 psi and must not exceed 150 psi
6. Shock absorber shaft diameter must not exceed 0.630 inch and the shaft must not have any sleeves or spacers that could limit the travel of the shaft into or out of the main body



7. Coil over shock absorbers will be permitted
8. A maximum of one shock absorber per wheel will be permitted
9. Quick disconnect shock absorber mounts will not be permitted
10. The shock absorber must be attached with positive nut and bolt mounting fasteners
11. Adjustable shock absorber mounts of any type will not be permitted
12. Shock absorbers must be mounted on the car with a gas reservoir at the top
13. Shock absorber eyelets with a different length will be permitted, but must not limit the travel of the chassis
14. Shock absorbers will not be permitted inside the front or rear coil springs with the exception of a coil over type spring
15. All rear shock absorbers must be mounted behind the rear axle housing
16. The rear shock absorbers must not angle inward towards the center of the car more than 30° from vertical
17. Heating pads or blankets will not be permitted for warming the shock absorbers

## 6.6 - A-FRAMES

1. A-frames must have a stock appearance and be made of magnetic tubular steel
2. Any modifications that have been made with the intent of weight reduction will not be permitted
3. Heim joints will not be permitted on the upper and lower A-frames
4. The length of the lower A-frame must be a minimum of 15 1/8 inches and a maximum of 16 1/8 inches from the center of the ball joint to the center line of the mounting point
5. The location of the center of the lower ball joint must be equal distance from the center line of the front sub frame rails plus or minus 3/8 of an inch
6. Both lower A-frames must be the same length. No offsets permitted
7. The General Motors type lower A-frame must be constructed using a minimum of ¾ inch wide by 2 inches high magnetic steel tubing
8. The Ford type lower A-frame must be constructed using a minimum 2-inch wide by 1-inch high magnetic steel tubing
9. The distance from the center line of the tread width and frame rails front and rear to the front mounting points of the lower A-frame left and right must be the same
10. The lower A-frame must attach to the chassis using to minimum ½ inch diameter magnetic steel bolt and nut assembly
11. Offset bushings will not be permitted in the chassis or lower A-frames
12. Ball joints must not have any adjustment with the exception of free play
13. The spring bucket in the lower A-frame must be round magnetic steel and must not exceed a maximum of 6-5/8 inches inside diameter
14. The spring bucket must not be flared or scalloped at the top or bottom
15. The distance from the center of the spring bucket to the center of the ball joint must not be less than 6 ½ inches tall nor more than 7 ½ inches tall, and must be the same on left and right hand side
16. The upper A-frames must mount to the chassis using to minimum ½ inch diameter magnetic steel bolt and nut assembly per side
17. The upper A-frame cross shaft must be a one-piece magnetic steel straight shaft and must not be offset
18. The upper A-frame must pivot on the centerline of the cross shaft

## 6.7 - SPINDLES / WHEEL BEARINGS / HUBS



1. Forged or fabricated tubular non-adjustable, heavy-duty magnetic steel spindles must be used. Spindle beams (excluding spindle snout) and steering arms must be manufactured as a separate piece
2. Steering arms must be bolted or welded to the spindle beam
3. Spindles manufactured from one-piece Billet materials will not be permitted
4. Holes or other modifications that are made with the intent of weight reduction will not be permitted
5. Offset spindles will not be permitted
6. Wheel bearings must be magnetic steel tapered roller bearings
7. The bearing races and seals must be assembled separately in the hubs
8. Oil bath hubs will not be permitted
9. Wide five (5) pattern hubs will be permitted
10. Front and rear hubs must have the same dimensions on the left and right side
11. Offset hubs will not be permitted
12. Spindle adjustment bushings will be permitted and do not have to be welded

## 7.0 - STEERING COMPONENTS

### 7.1 - GENERAL

1. All cars must be equipped with a magnetic steel steering shaft
2. Collapsible steering section in the steering shaft should be used
3. All steering boxes must be mounted in the location and the stock position at an angle no less than 10° on GM type fronts of frames
4. Any means of raising or changing the steering box position will not be permitted
5. Tie rods, drag-links, pitman arms, idler arms, and other steering component parts must be heavy-duty magnetic steel
6. Holes or other modification of steering components that have been made with the intent of weight reduction will not be permitted
7. The center top of the steering posts must be padded with at least 2 inches a resilient material
8. A quick release steering wheel coupling with a metal housing must be used
9. Spacers between the quick release coupling and the steering wheel will not be permitted
10. The use of a minimum of two universal joints a minimum of 12 inches apart in front of the firewall should be used
11. Rack and pinion steering will not be permitted
12. Steering wheels must have magnetic steel spokes
13. The power steering pump must be mounted and driven off the front of the engine
14. All steering boxes must be constructed of magnetic cast steel

## 8.0 - BRAKE COMPONENTS

### 8.1 - GENERAL

1. Only single piston disc brakes with stock type calipers will be permitted. As an option the following brake calipers will be permitted:

<u>MANUFACTURER</u>	<u>PART NUMBER</u>	<u>TYPE</u>
Wilwood	120-15611	GM D52-R Single Piston (Aluminum)



## 2023 LATE MODEL RULES

Wilwood	120-15612	GM D52-R Single Piston (Aluminum)
Wilwood	120-10936	GM D52 Dual Piston (Aluminum)
Wilwood	120-10937	GM D52 Dual Piston (Aluminum)

2. Brakes must be operational on all four wheels
3. Floating brake calipers will not be permitted
4. Only magnetic cast iron or magnetic steel circular brake rotors will be permitted
5. Rotors must maintain a minimum of 3/4 inch thickness
6. Slotted, drilled, or grooved rotors will be permitted
7. Rotors scalloped on the inside diameter will be permitted
8. Floating rotors will not be permitted
9. Master cylinders and reservoirs must be mounted on the engine side of the front firewall
10. Cool type or swing type master cylinders will not be permitted
11. Only metal brake pedals will be permitted
12. Only single stage master cylinders will be permitted
13. Only one bore size per master cylinder will be permitted
14. Brake proportional systems will be permitted
15. Electronic remote-control devices will not be permitted
16. Electronic wheel speed sensors or break actuators will not be permitted
17. Power assisted braking systems will not be permitted
18. Brake fluid recirculatory systems will not be permitted
19. Brake rotors must be attached to the mounting hat or hub with positive fasteners
20. Quick disconnect fittings on the brake lines will not be permitted
21. Only one brake caliper per wheel using only two brake pads per caliper will be permitted
22. Brake pads must have a magnetic steel backing plate
23. Brake pad retraction devices will not be permitted
24. Openings about the uppermost horizontal surface of the front bumper including the headlight openings must not be used to pick up air for brake cooling
25. Liquid or gas cooling of the brakes will not be permitted
26. Brake ducts must be used for cooling of the brakes and rotors only
27. Mechanical brake cooling fan assembly that mounts between the wheel and the hub will be permitted

## 8.0 - FUEL SYSTEM

### 8.1 - FUEL CELL

1. The use of a commercially manufactured fuel cell is mandatory
2. The fuel cell capacity including the filler spout and overflow must be 22 gallons
3. Materials other than standard foam as provided by the fuel cell manufacturer will not be permitted
4. Filler blocks or other materials inside the fuel cell to reduce capacity of the 22 gallons will not be permitted
5. A fuel cell check valve must be used
6. The check valve may be a steel ball type or a flap type
7. Fuel cells may be recertified by the original manufacturer
8. The fuel cell and the fuel cell container must be fastened in the trunk compartment in a welded recess well not less than 24 gauge in magnetic steel



9. The fuel cell and the fuel cell container must be installed as far forward as possible in the trunk compartment equal distance between the frame rails
10. The mounting of the fuel cell must be acceptable to track officials
11. The bottom of the fuel cell container must have a minimum ground clearance of 8 inches
12. A single 1 inch maximum inside diameter vent to the outside of the body may be installed on the left rear corner in the taillight area only

## 8.2 - FUEL LINES

1. Only one fuel line a maximum of 5/8 inch inside diameter steel braided fuel line should be used from the fuel cell to the fuel pump
2. If the fuel line runs through right side of the driver's compartment, it should be enclosed in a straight, one inch outside diameter metal tube painted red and labeled "fuel line"
3. Additional lines for extra length must not be used
4. Extra fuel lines for fuel cells concealed or otherwise will not be permitted
5. It is highly recommended that a check valve, acceptable to Track Officials, mounted at the fuel line outlet on the fuel cell be used
6. Quick disconnect fittings will not be permitted
7. Electric fuel pumps will not be permitted
8. Cooling of the fuel pump will not be permitted
9. Only mechanical lever action cam shaft actuated fuel pumps in the stock location will be permitted
10. A magnetic steel plate is required between the engine block and a fuel pump on General Motors engines
11. Thermal plates or gaskets will not be for permitted

## 9.0 - ROLL BARS

### 9.1 - GENERAL

1. Roll bars must be made from round magnetic steel seamless tubing 1 3/4 inch x .090" minimum wall thickness
2. Roll bar joint intersections must be welded
3. All roll bars within the drivers reach should be covered with impact absorbent material

## APPENDIX A – CHASSIS/FRAME CONSTRUCTION

DIAGRAM 1 - TYPICAL LMSC FRAME (PLAN VIEW)

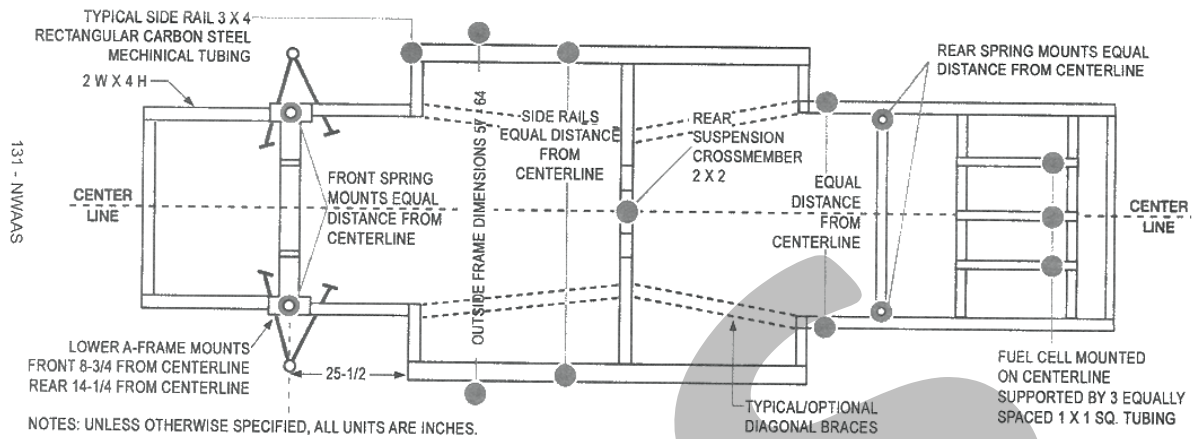


DIAGRAM 2 - TYPICAL ROLL CAGE AND FRAME CONSTRUCTION (PLAN VIEW)

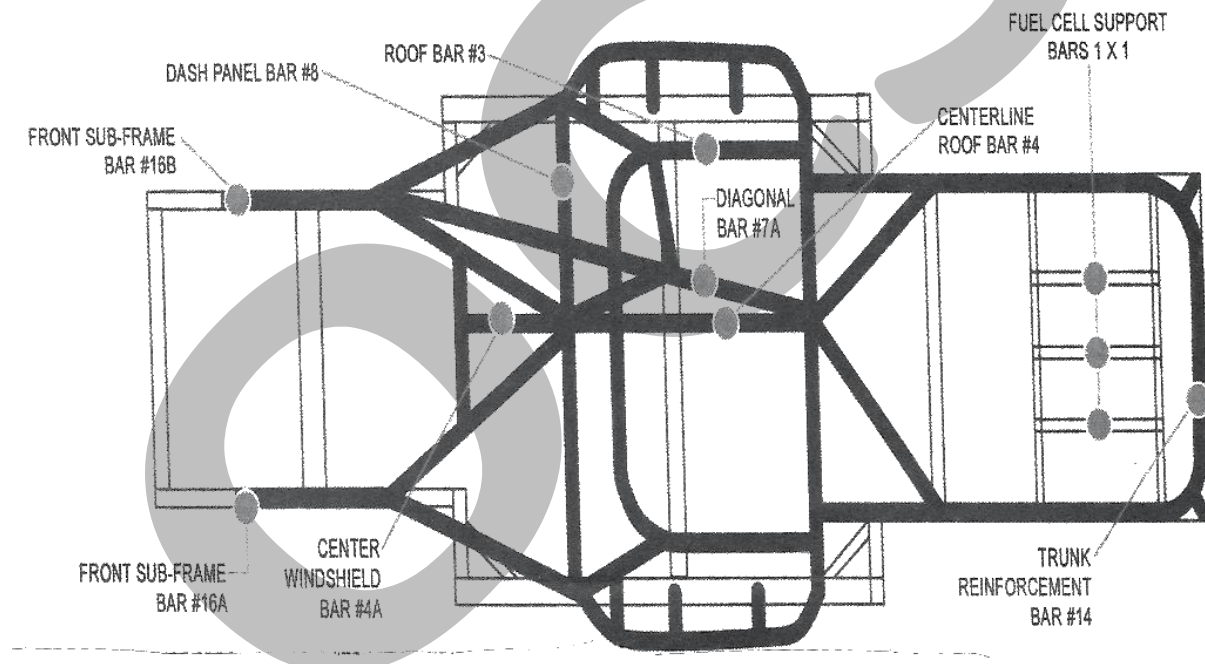


DIAGRAM 3 - TYPICAL ROLL CAGE AND FRAME CONSTRUCTION (SIDE VIEW)

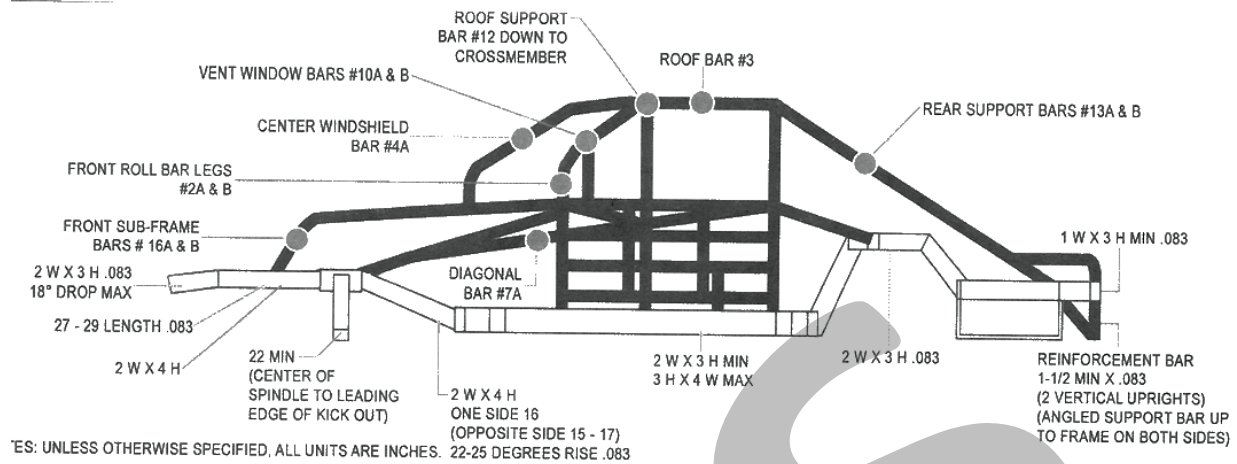
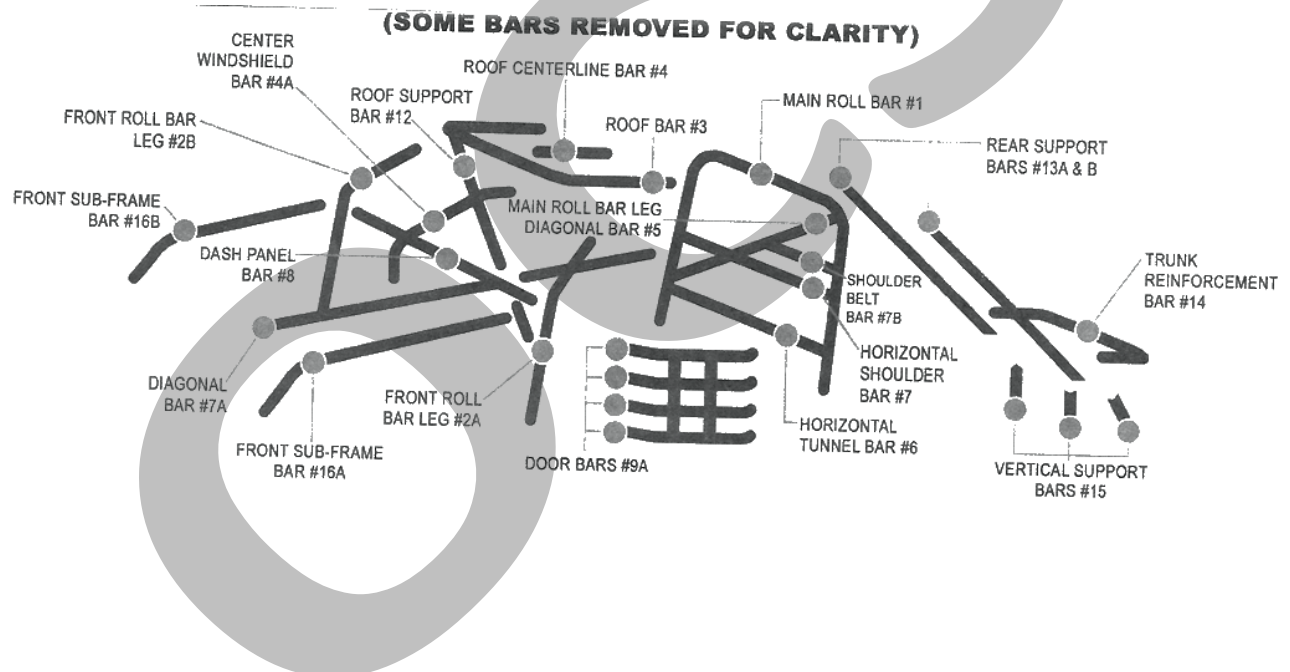
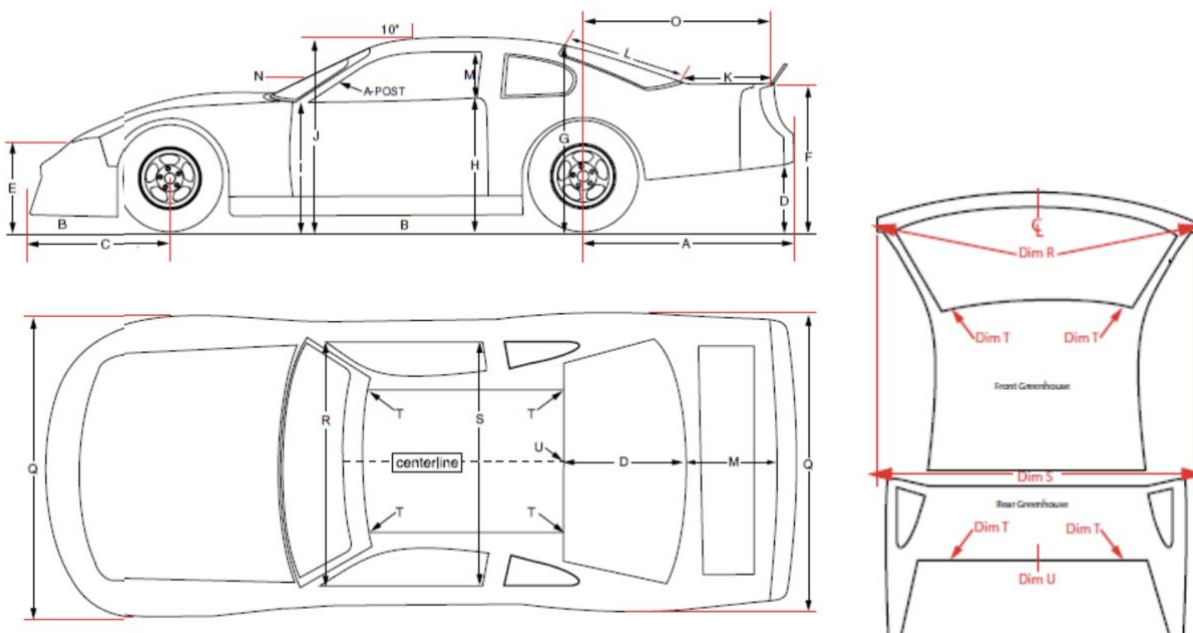


DIAGRAM 4 - EXPLODED VIEW OF BASIC ROLL CAGE



## APPENDIX B – BODY MEASUREMENTS

### 2007-2019 LMSC Body



	Location	Description	Measurement
A	Rear Overhang (Max)	Centerline of the rear wheel to the base of the spoiler	52"
B	Ground Clearance (Min)	From the ground to the lowest point on the car	4"
C	Front Overhang (Max)	From the centerline of the front wheel to the leading edge of the front valance	46"
D	Rear Bumper Cover Height (Max)	From the bumper cover to the ground	15 ½ "
E	Nose Height (Min)	From the ground to the hood & bumper cover seam	23"
F	Quarter Panel/Bumper Cover Height	From the ground to the bumper cover & deck lid seam	34 ½ "
G	Rear Roof Height (Min)	From the ground to the roof & back glass at rear center edge	45 ¾ "
H	Door Height	From the ground to the top of door at the "B" post	33"
I	Front Fender Height (Max)	From the ground to the top of the fender at the "A" post	33 ½ "
J	Roof Height (Min)	From the ground to the centerline of the roof 10" back from the front of the windshield	48"
K	Deck Lid Length (Max)	From the bottom of the back glass to the spoiler	23 ¼ "
L	Rear Window Length	Centerline of the rear window from the roof to the deck lid	31 ½ "
M	Side Window Opening	From the top of the door to the bottom of the roof	15"
N	Windshield Angle	At the centerline of the windshield	26°
O	Rear Overhang (Max)	From the centerline of the rear end to the front of the spoiler at centerline	47"
Q	Body Width (Max)	At wheel wells, must not extend past tires	-



## 2023 LATE MODEL RULES

R	Door to Door Width	Thru the car at "A" post & inside edges of doors	67"
S	Door to Door Width	Thru the car at "B" post & inside edges of doors	65 ½"
T	Roof Height Corners (front)	From the ground to the body lines on the front	45 ⅛"
T	Roof Height Corners (Rear)	From the ground to the body lines on the rear	44 ¼"
U	Roof Height	From the ground to the centerline of the roof at the back glass	45 ¾"

## 2020 LMSC BODY

### FIVE STAR RACE CAR BODIES 2020 LATE MODEL STOCK BODY

