SECTION 3: TECHNICAL AND SAFETY SPECIFICATIONS

UPDATED: 10/14/2022

These are the SCCA Team Enduro Technical and Safety Specifications – these will cover Vehicle Eligibility, "Must Do's" (Required modifications/safety gear). Meaning, this is what you "Must Do" in order for a vehicle to be eligible. "Can Do's" (Permitted modifications including the competition adjustments (if any) that come with those modifications,

1. **Vehicle Eligibility**
   SCCA Enduro Classing is designed to be inclusive, with a broad range of modifications allowed to mass-produced production vehicles.

   1. SCCA Enduros are open to any vehicle that:

   A. Meet General Performance Limits
   Generally, vehicles should not be faster per lap than SCCA Sprint Road Racing Touring 2 class. While the eligibility guidelines do not specifically limit potential, any National and Regional Classing should render vehicles with performance capabilities beyond the intended limits ineligible for competition.

   B. Are Production-Based
   Chassis/Body and Engine do not have to be original to each other, but each must have started their life as or in a mass-produced automobile, available for retail sales on showroom floors and at dealerships.

   1. Production-Vehicle exceptions

   a. SCCA Spec Racer (Any generation, in Road Race compliant trim, or within Road Racing compliant performance limits.)

   b. Replica Production Cars (E.g., Factory Five Spec Racer)

c. Tube Frame GT/Production-based cars, not to exceed 2.9 liters naturally aspirated, 1.5 liters forced induction 1.95 liters rotary or 175KW electric.

C. Have the following passenger-car design considerations:

1. Have at least four wheels, grouped in equal sets of half the vehicle wheels on each side.

2. Must not have a high center of gravity. Potentially unstable vehicles with a high center of gravity–determined by whether they are wider than they are tall–are excluded from SCCA Enduro. Width is the average track width of the vehicle, and height is measured from the ground to the highest point. Extra caution should be exercised with non-traditional track vehicles (e.g., trucks or SUVs.)

D. Meet Safety Requirements
All SCCA Enduro Vehicles must meets all safety standards outlined in this document – primarily in 3.2.1. "Must Do's and Recommendations."

2. Vehicle Documentation

A. Vehicle Logbooks
Vehicles may have SCCA Logbooks, and annual inspections are permitted. Vehicle Logbook may only be issued by a Nationally licensed Technical Inspector.

1. If a car is protested or inspected during an event and found to be non-compliant, the results of this protest or inspection must be noted in the logbook by the Race Director or his designee.

2. If a car is involved in an accident or is damaged because of mechanical failure, the damage must be noted in the Vehicle Logbook by the accident investigator or Chief Technical Inspector.

B. Vehicles Without Logbooks
Vehicles without logbooks may participate in SCCA Enduro events but must be inspected before participating in any on-track session.

2. Must Do's and Recommendations

These are the mandatory and recommended items for a vehicle or driver gear in SCCA Enduro Competition. This means in order to participate, SCCA Enduro Vehicles must have these items, or we strongly recommend them.

Primarily, these are safety requirements and recommendations rather than performance-enhancing competition allowances, though some items (E.g., fuel test port) may be for compliance-checks.

If an item says "must" the vehicle or driver must have that item meeting the listed specifications. If it says "recommended" then those items are recommended but not required.

1. SCCA Enduro Vehicles:

Vehicles Eligible for SCCA Team Enduro Competition either must (or are recommended if noted) to have the following modifications and features.

A. General

1. Appearance

We recognize that time and resources may create a range of visual presentations, but you should be proud of your racecar. Cars that are neat and clean instill more confidence in officials and your competitors. In addition, cars kept in such condition tend to alert of potential problems sooner – something that can help your team avoid lost time and poor results.

Cars that have structural damage or significant rust may not be approved for competition.

2. Cameras/Recording

It is strongly recommended that all cars be equipped with a forward-facing video camera, recording at all times when on track. The video card shall be made available to the series upon request, including during the competition. Teams should have spare memory cards available in the event a video card is collected by the Race Director or Driver Coach for review.

The mounts for video / photographic cameras must be of a safe and secure design. The body of the camera or recording unit that weighs more than 8 oz shall be secured at a minimum of 2 points on different sides of the camera body. Suction cups or elastic mounts are not permitted. If a tether is used to restrain the camera, the tether length shall be limited so that the camera cannot contact the driver.

B. Chassis/Interior/Exterior

1. Chassis

Unless otherwise listed in eligibility exceptions, SCCA Enduro Vehicles must use a production chassis without modification which changes its shape or basic original vehicle dynamics.

The intent of this rule is to keep entrants from participating in a tube frame car or effectively creating a tube-frame car that isn't allowed, and to prevent weight reduction and body modifications which compromise strength or otherwise substantially change the construction of the vehicle. (E.g., building a "ship in a bottle" tube-frame car would not be allowed, and cutting, bracing, tubbing, clipping, etc. will be evaluated with much greater scrutiny.)

2. Interior

a. Supplemental restraint systems (SRS), passive restraint systems must be removed or disabled, and any item not secured in place by original fasteners such as bolts, nuts, snaps, straps, etc. (e.g., jacks, spare tire covers) must be removed.

Any item which can be secured in place by original fasteners such as bolts, nuts, snaps, straps, etc., may be removed. (E.g., a spare tire, tool kit.)

b. All installed interior components must be attached to/contained in the chassis in such a way as to be able to withstand 25g deceleration. Any sharp edges shall be covered, padded, protected, etc. to prevent injury to driver, crew, course workers and officials.

c. Firewalls and Floor
Firewall and floor must prevent the passage of flame and debris into the driver's compartment. Any holes in the firewall must be of the minimum size for passage of controls and wires and must be completely sealed. Belly pans/floor shall be vented to prevent the accumulation of liquids, except composite/honeycomb structures.

d. Mirrors or screens (e.g., rear-view camera system) must provide driver visibility to the rear of both sides of the car.

e. Fuel, Oil and Water Lines
All fuel, oil, and water lines, including gauge and vent lines, that pass into or through the driver/passenger compartment, shall be of steel tube or metal braided hoses or protected by a wall–like bulkhead container (Cool suit lines are exempt).

The driver shall not be exposed to header tanks. Heat shielding between fuel/oil lines and fuel/oil filters and exhaust components is strongly recommended.

f. Hand Controls
Hand controls may be approved on a case-by-case basis. Such approval shall be in writing from the Road Racing Technical Manager and shall be in the driver's possession at all competitions.

g. A Roll Cage meeting the specifications in Section C must be installed/constructed.

3. Bodywork

a. Vehicles must retain the general original silhouette and all major bodywork pieces, bumpers, facias, and doors.

b. Body panels shall be securely mounted. Fender skirts and hub caps shall be removed. The hood and engine compartment shall be securely fastened. Hood fasteners must be removable with simple tools; no fastener requiring a key to open it is permitted.

c. It is recommended that all vehicle doors be able to be opened from both inside and outside of the vehicle.

4. Convertible/T-Tops/Targa-Tops

i. Convertible soft tops and attaching hardware shall be completely removed.

ii. Glass or movable/removable metal or composite panels in the roof may be either removed or positively secured in the closed position. Any openings in the roof resulting from the removal of a panel may be covered with panels of stock contour made of aluminum or the same material as the stock surrounding roof structure. Drivers of cars without a sunroof panel shall wear arm restraints.

b. Bumper covers must be in place. If bumper cores and crush structures hidden by the cover are be removed, they must be replaced with a structure designed to perform the same function.

c. Tow Hooks/Tow Straps/Towing Eyes
All cars must have a towing eye or strap, (sometimes known as a "tow hook" front and rear, that does not dangerously protrude from the bodywork when the car is racing, to be used for flat towing or hauling the vehicle.

These towing eyes or straps shall be easily accessible without removal or manipulation of bodywork or other panels. The minimum ID of the tow eye is 2 inches. The required tow eyes must be strong enough to tow the car from a hazard such as a gravel trap.

i. The front tow eye may be mounted at any location forward of the windshield, and a hole may be cut in the bodywork for the sole purpose of clearing a protruding tow eye.

ii. Open top cars may use their exposed roll bar for towing purposes. Closed top cars may mount the front tow eye in the driver/passenger side window openings, but it must be attached to the forward roll cage down tube as close to the base of the windshield as possible, and there shall be one on each side of the car. A removable towing eye carried inside the car is not acceptable, except in Formula and Sports Racing cars. In addition, for open-topped cars, Formula and Sports Racing cars, if the main hoop is faired in, the fairing shall have access holes to allow the insertion of a bar or strap to allow the car to be lifted by a wrecker.

iii. Rear tow eyes must be accessible rearward of the rear axle centerline.

C. Windows/Glass

1. Windshields and windows may be OE-equivalent glass or polycarbonate. Any polycarbonate windows or windshields must be adequately fastened. Forward-facing polycarbonate windshields must be a minimum thickness of 3/16" and feature a reinforcement to prevent collapse. Forward-facing OE-equivalent glass windshields must be safety glass, must be installed per factory recommendations, and may be reinforced.

2. Detachable roof panels and glass panels in the roof (sunroofs/moonroofs) may be removed.

3. Windows must be clear or uncolored, except if no factory or aftermarket clear windows are available. Officials may require the replacement of windshields that are considered a safety hazard.

   a. All closed cars shall run with both front door windows fully open.

   b. If allowed as a supplementary class at an event, factory (OEM Manufacturer) and FIA GT3/GT4, race prepared cars with fixed Lexan front door windows may race with windows as delivered and noted on the Spec Line.

4. Windshield Wipers
   Any car equipped with a windshield must be fitted with at least one effective windshield wiper assembly, which must be in working order throughout the event.

D. Exterior Lighting systems

1. Events running into darkness may require the use of headlights and tail driving lights. Utilizing stock assemblies, or upgraded stock assemblies, is the easiest way to accomplish this.

2. There must be at least one functioning red brake light at all times.

3. Head lights shall be retained and utilized during rain or low light situations as directed by race control. When required, vehicles must have a minimum of one functioning driving light/rain light on the rear of the vehicle.

4. Auxiliary headlights may be allowed by the event information or supplemental regulations.

5. Exposed glass headlights shall be taped. Lights mounted on or below the bumper shall be removed, and all resulting holes shall be covered to prevent air passage through said holes unless used for approved ducting. Lights mounted within the bumper may be removed or covered and any resulting holes shall be covered to prevent air passage through said holes unless used for approved ducting.

6. Rookie Light
   Vehicles with driver(s) on a Rookie license shall illuminate an amber-colored LED light on the rear of the vehicle when the Rookie is driving the car. The light shall easily be viewed by drivers in cars following behind. Light shall be a minimum of 4" wide.

   e.g.: https://www.lightinthebox.com/en/p/6led-light-bar-flash-emergency-car-vehicle-warning-strobe-flashing-blue-red-white-yellow-amber_p7668639.html

E. Exhaust system

1. Exhaust systems are open to modification but must include one (1) muffler at minimum, with exhaust routed rearward to the midpoint of the vehicle, or behind the driver's most rearward point, whichever is further toward the rear of the vehicle. Cars must be compliant with the SCCA Sound Control limit of 103dB or the track-mandated limits, whichever is lower.

2. If the exhaust system is routed in such a way that damage to it could cause hot exhaust to contact any part of the fuel system, there shall be a metallic heat shield protecting the fuel

system components.

F. Roll Cage

All cars must utilize a roll cage with a minimum of six attachment points to the chassis and compliant with the following specifications. These specifications apply to all vehicles registered (issued an SCCA logbook or presented for an event without a logbook) after 1/1/08.

a. Cars with an SCCA Logbook registered before 1/1/08 may compete with their previous roll cage as specified in the SCCA GCR Appendix I or comply with the following specifications.

b. Cars registered as Production class cars prior to 1/1/08 may continue to use their existing roll cage per the SCCA GCR Appendix J or comply with the following specifications.

2. Definition

The roll cage consists of the main hoop, front hoop, side protection, and braces as specified in these rules.

3. Main Hoop

The main hoop (behind the driver) must be the full width of the cockpit for all cars. It must be one continuous length of tubing with smooth bends and no evidence of crimping or wall failure. The main hoop must maintain a single plane.

a. On all closed cars, the main hoop must be as close as possible to the roof and "B" pillars.

b. Open cars without the windshield frame may use an asymmetric main hoop. The main hoop must be full width to the passenger side of the car. On the passenger side of the car the hoop must be at least as high as the top of the rear corner of the door as illustrated in figure 9.

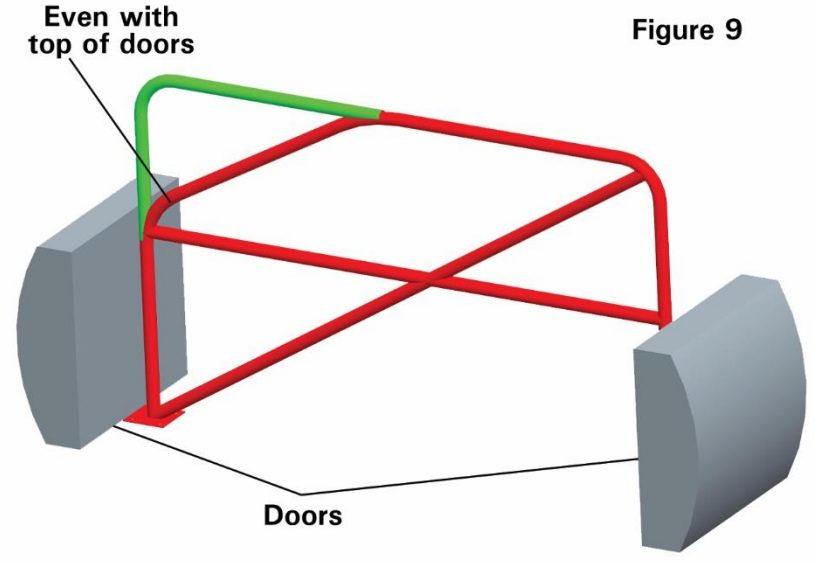
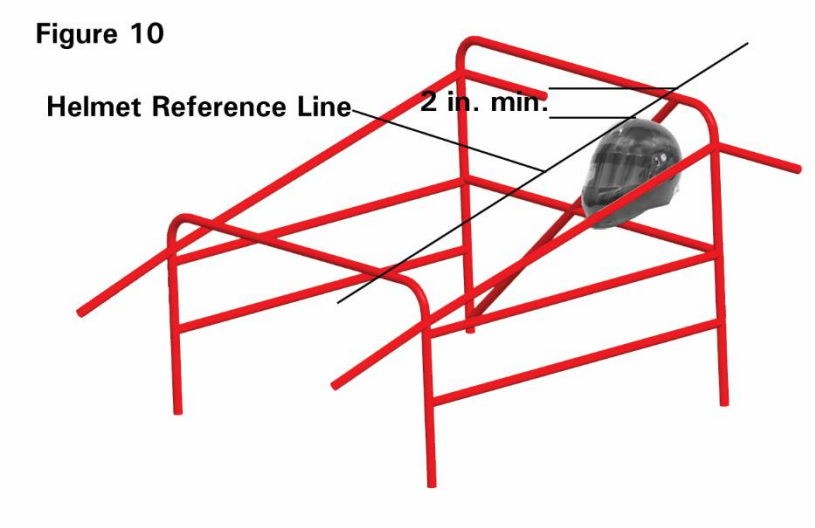


Figure 9

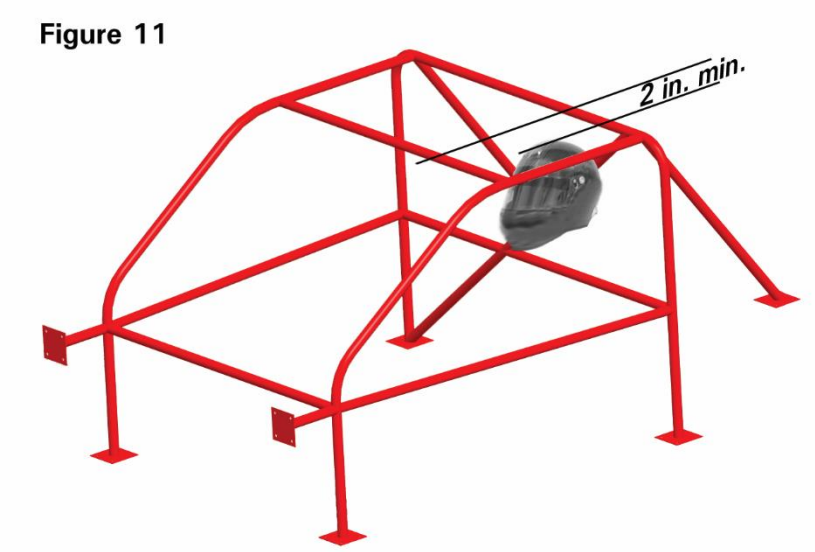
c. The main hoop must be high enough that a straight line drawn from the top of the main hoop to the top of the front hoop would pass over the driver's helmet and steering wheel when the driver is seated in the normal driving position. Additionally, the top of the main hoop must be at least 2 inches above the driver's helmet as illustrated in figure 10.

Figure 10



d. On open cars retaining the windshield frame the main hoop must be full height for the entire width of the hoop. The top of the main hoop must be at least 2 inches above the driver's helmet as illustrated in figure 11.

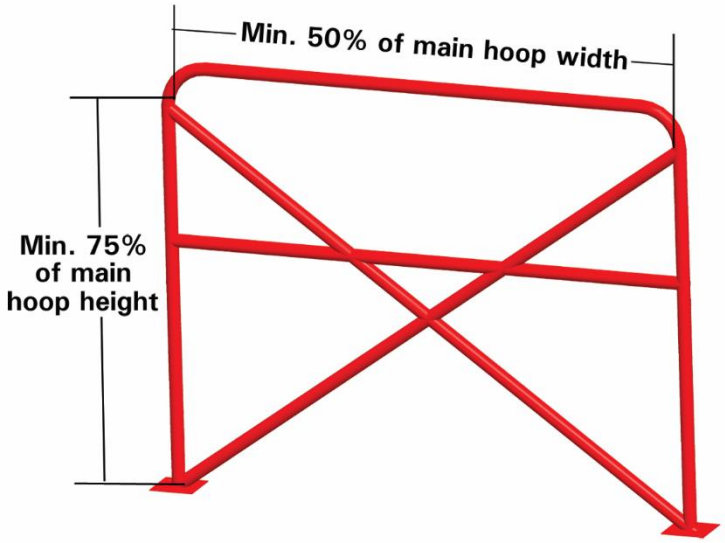
Figure 11



e. Main Hoop Bracing

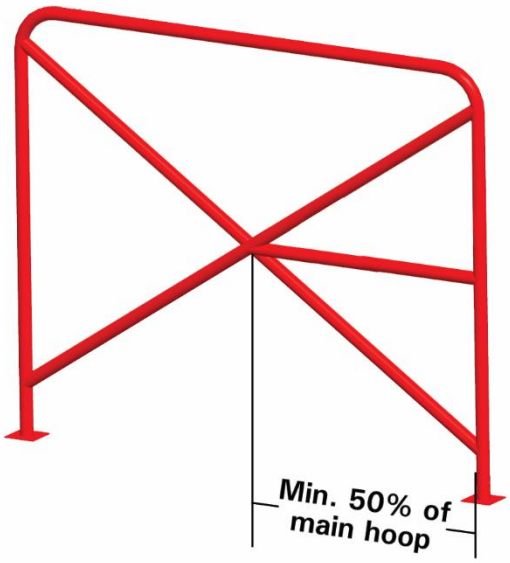
Main hoops shall incorporate a diagonal brace. The brace shall either be in the plane of the main hoop or extend from the top of one rear brace (described in 2.1.D.3.f) to the bottom of the opposite rear brace. Automobiles with mid mounted engines can have the lower mounting point attach to the frame of the automobile within six inches of the main hoop. In the case of braces in the plane of the main hoop, the brace must span at least 50% of the width of the main hoop, and at least 75% of the height of the main hoop as shown in figure 12.

Figure 12



f. Cars must incorporate a main hoop horizontal brace at the approximate level of the driver's shoulders but not lower than the shoulder belt mounting point as described in section 2.1.D.2 Driver's Restraint Systems. If a double-diagonal "X" brace is used in the plane of the main hoop, a half-width horizontal brace may be used behind the driver's seat to mount the seat back and shoulder harness as shown in figure 13.

Figure 13



g. Cars must have 2 braces extending to the rear from the main hoop and attaching to the frame or chassis. Braces must be attached as near as possible to the top of the main hoop (not more than 6 inches below the top), and at an included angle of at least 30 degrees.

h. Open cars must have 2 braces extending forward from the main hoop and attaching to the front hoop, not more than 6 inches below the top of the front and main hoop. It is recommended that the front and rear braces attach to the main hoop as close as possible to each other.

i. On cars where the rear window/bulkhead prohibits the installation of rear braces (e.g., Honda del Sol), the main hoop shall be attached to the body by plates welded to the cage and bolted to the stock shoulder harness mounting points.

This installation design must incorporate a diagonal bar connecting the top of the main hoop to the lower front passenger side mounting point (Petty Bar).

Alternatively, the rear window may be removed and a clear, Lexan replacement installed. The rear cage braces may pass through this replacement window and through the engine cover or bodywork to allow connection to the frame or unibody.

4. Front Hoop

Roll cages may be of two designs, low front hoop or high front hoop. All closed top cars and cars that retain the windshield frame must have a high front hoop design. Open cars may incorporate a high or low front hoop design. High front hoops are also referred to as side hoops.

a. Closed cars

The front hoop (side hoop) must follow the line of the A-pillars to the top of the windshield and be connected by horizontal bars to the top of the main hoop on each side (as close to the roof as possible). Instead of a single front hoop, two side hoops (down tubes) may be used. Alternatively, a top "halo" hoop following the roof line from the main hoop to the windshield with forward down tubes following the A-pillars to the floor may be used. Regardless of which one of the two approved tubing configurations there shall be a tube connecting the two A-pillar tubes at the top of the windshield.

b. Open cars

The height of the front hoop (per section 2.1.D.4.a) must be consistent across the full width of the cockpit.

c. Front Hoop Bracing

It is recommended that all open cars with a high front hoop and all closed cars incorporate a horizontal front hoop brace at the approximate level of the dashboard. (Sometimes called a "dash bar.")

d. It is recommended that one tube must extend, from each front down tube, forward to the firewall.

Roll Cage Bracing – bracing that goes through the front fire wall, or ties into or shock tower/suspension mounts is permitted, but at some point in the future will likely incur a competition adjustment in the National Classing rules.

5. Side Protection

Two side tubes connecting the front and main hoops across both door openings must be used.

Tubes that are welded to any part of the same mounting plate are considered to be connected to one another (see 2.1.D.6 below).

NASCAR-style side protection or one bar bisecting another to form an "X" is permitted. Door

side tubes may extend into the front door.

6. Roll Cage Attachment Points
The roll cage must attach to the vehicle structure within the passenger compartment in a minimum of 6 points. More points may incur competition adjustments or be disallowed from competition if it creates an unauthorized tube-frame car.

The Roll Cage may not pass through any structural member, including the firewall, except Miata rear main hoop braces may pass through the package tray.

a. Mounting Plates
Mounting plates welded to the structure of the car must not be less than .080 inches thick and no more than 0.25 inches thick.

b. The thickness of mounting plates bolted or riveted to the structure of the car must not be less than the thickness of the roll hoop or brace that they attach to the chassis and must be backed up with a plate of equal size and thickness on the opposite side of the chassis panel.

c. Fasteners for bolted or riveted mounting plates must be Grade 5/Metric 8.8 or better with a minimum diameter of 5/16".

7. Tubing

a. Seamless or DOM mild steel tubing (SAE 1020 or 1025 recommended) or alloy steel tubing (SAE 4130 or T45), or Docol R8 tubing must be used for all roll cage structures. Alloy and mild steel tubing may not be mixed. ERW tubing is not allowed.

b. The following table shows the minimum allowed tubing outer diameter and wall thickness by vehicle weight:

Vehicle Weight	**Tubing Size (inches)** **(outer diameter x wall thickness)**
Up to 1700 lbs	1.375 x .080
1701 - 2699 lbs	1.500 x .095 1.625 x .080
2700 lbs and up	1.50 x .120 1.750 x .095 2.0 x .080

c. For purposes of determining tubing sizes, the vehicle weight is as raced without driver, fuel and ballast.

d. The required tubing elements must meet the material minimums set forth above. Optional tubing elements may be any size.

e. The minus variance of tubing wall thickness due to manufacturing tolerances is limited to .010 inch.

f. Either an inspection hole between 3/16- and 1/4-inch diameter must be drilled in a non-critical area of the front and rear hoops, as well as one of the supplemental braces to facilitate verification of wall thickness; or alternatively, wall thickness may be determined by non-invasive means.

8. Basic Design Considerations

a. All portions of the roll cage subject to contact by the driver must be padded with a minimum 1 inch of material. Padding that meets or exceeds SFI 45.1 or FIA 8857-2001 (curved padding), or SFI 45.2 or FIA sports car head rest material (flat padding) specification is recommended.

b. The roll cage must not have an aerodynamic effect by creating a vertical force.

c. The radius of all bends in the roll cage (measured at centerline of tubing) must not be less than 3 times the diameter of the tubing.

d. It is recommended that all joints of the roll cage be welded. All welding must include full penetration, no cold lap, no surface porosity, no crater porosity, no cracks, no whiskers, and so forth. Welds shall be continuous around the entire tubular structure. Procedures for welding alloy steel shall be in accordance with accepted industry practice. It is recommended that a certified AWSD1.1 welder do all welding.

e. It is recommended that gussets be used at all joints.

f. Any number of additional tube elements is permitted within the boundaries of the cage structure. Such tube elements may pass through any mandatory or optional bulkhead or panel separating the driver/passenger compartment from the trunk/cargo area/fuel tank/fuel cell area provided the bulkhead is sealed around such tube elements.

g. Removable roll cage bracing is acceptable in one of the following configurations:

i. If one tube fits inside another tube to facilitate removal, the removable portion must fit tightly and must bottom by design, and at least 2 bolts must be used to secure each joint. The telescoping section must be at least 8 inches long. The minimum bolt diameter is 3/8 inch.

ii. Removable bracing may incorporate connectors of the double-lug, double ear-type, tapered, or muff-type as shown in figures 14 and 15. The double-lug type must include a doubler, gusset, or capping arrangement to avoid distortion or excessive strain caused by welding. Double ear-type joints must be fully welded at all the mating surfaces.

Figure 14

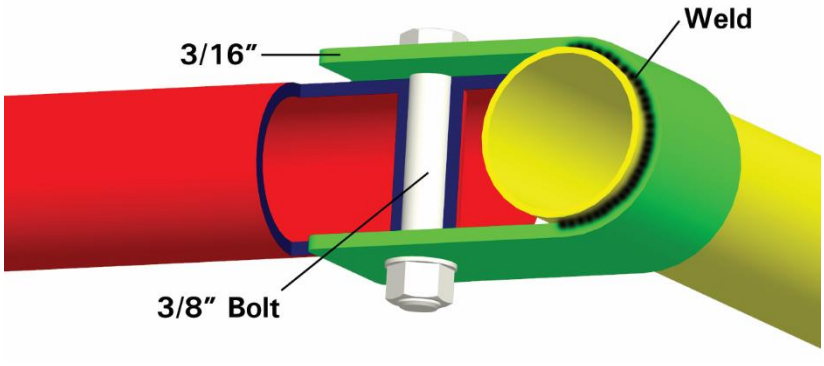
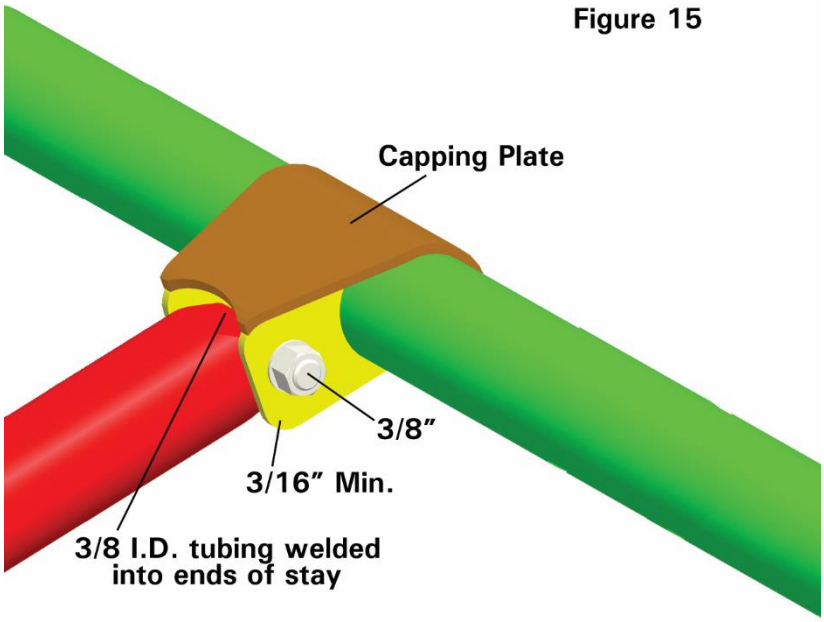


Figure 15



9. Manufacturer Supplied/FIA/IMSA Homologated Roll Cages

a. Cars may compete with FIA or FIA-Approved Test Houses homologated cages provided the cage was built by the manufacturer or a manufacturer designated shop/team and approved for use. Cars must have the FIA identification plate attached to the cage along with a letter from SCCA Technical Services certifying the origins of the car, or confirmation that the cage was certified by an FIA-Approved Test House.

b. Cars may compete with an approved Motorsport UK Roll Over Protection System Certificate. All related engineering drawings and documents shall be submitted to SCCA Technical Services. Cars must have MSA identification plate attached to the cage along with a letter from SCCA Technical Services certifying the cage was approved by the MSA.

G. Seats/Restraint Systems

1. Seats

The driver's seat shall be a one-piece bucket-type seat and shall be securely mounted to provide fore/aft and lateral support. Passenger seat back, if a folding seat, shall be securely

bolted or strapped in place.

a. Mounting structures for racing seats may attach to the floor, cage and or center tunnel. Seat mounting points forward of the main hoop, between the center line of the car and the driver's side door bar and rearward of the front edge of the seat bottom are not considered cage attachment points in classes with limitations on the number of attachments.

b. A system of head rest to prevent whiplash and rebound, and to prevent the driver's head from striking the underside of the main hoop shall be installed on all vehicles. Racing seats with integral headrests satisfy this requirement. The head rest on non-integral seats shall have a minimum area of 36 square inches and be padded with a minimum of one-inch-thick padding. It is strongly recommended that padding meet SFI spec 45.2 or FIA Sports Car Head Rest Material. The head rest shall be capable of withstanding a force of two hundred (200) lbs. in a rearward direction. The head rest support shall be such that it continues rearward or upward from the top edge in a way that the driver's helmet cannot hook over the pad.

c. A passenger seat meeting all the specs of the driver's seat may be installed in the front passenger seat position. The seat may not be occupied during SCCA racing events.

2. Restraint Systems
All drivers in SCCA sanctioned speed events shall utilize either a 5-, 6-, or 7-point restraint harness meeting the following specifications. A 7-point restraint harness is recommended. Arm restraints are required on all open cars including open Targa tops, sunroofs and T-tops. Arm restraints shall not be worn in a manner which limits the ability of the driver to provide visible signals to other competitors while on track. The restraint system installation is subject to approval of the Chief Technical Inspector.

a. The shoulder harness shall be the over the shoulder type. There shall be a single release common to the seat belt and shoulder harness. When mounting belts and harnesses it is recommended that they be kept as short as reasonably possible to minimize stretch when loaded in an accident.

The shoulder harness shall be mounted behind the driver and supported above a line drawn downward from the shoulder point at an angle of 20 degrees with the horizontal. The seat itself, or anything added only to the seat shall not be considered a suitable guide. Guides must be a part of the roll cage or a part of the car structure.

i. Only separate shoulder straps are permitted. ("Y" type shoulder straps are not allowed.) "H" type configuration is allowed.

ii. The single anti-submarine strap of the 5-point system shall be attached to the floor structure and have a metal to metal connection with the single release common to the seat belt and shoulder harness.

iii. The double leg straps of the 6-point or 7-point system may be attached to the floor as above for the 5-point system or be attached to the seat belt so that the driver sits on them, passing them up between their legs and attaching either to the single release common to the seat belt and shoulder harness or attaching to the shoulder

harness straps. It is also permissible for the leg straps to be secured at a point common to the seat belt attachment to the structure, passing under the driver and up between their legs to the seat belt release or shoulder harness straps.

b. All straps shall be free to run through intermediate loops or clamps/buckles.

c. Each seat (lap) and shoulder belt of the harness (5, 6, or 7 points) shall have an individual mounting point (i.e., 2 for seat belt and 2 for shoulder belt minimum). 6- or 7-point system anti-submarine straps may share a mounting point with one or both seat (lap) belt(s). The minimum acceptable bolts used in the mounting of all belts and harnesses is SAE Grade 5/Metric 8.8. Mounting hardware, including eye bolts, as provided by the belt manufacturer, may also be used for mounting belts and harnesses.

d. Where possible, seat belt, shoulder harness, and anti-submarine strap(s) should be mounted to the roll structure or frame of the car. Where this is not possible, large diameter mounting washers or equivalent should be used to spread the load. Bolting through aluminum floor panels, etc., is not acceptable. Holes in the roll cage to accommodate the installation of the harness must be bushed and welded completely.

e. All driver restraint systems shall meet one of the following: SFI specification 16.1, 16.5, or FIA specification 8853/98, 8853-2016 or 8854/98.

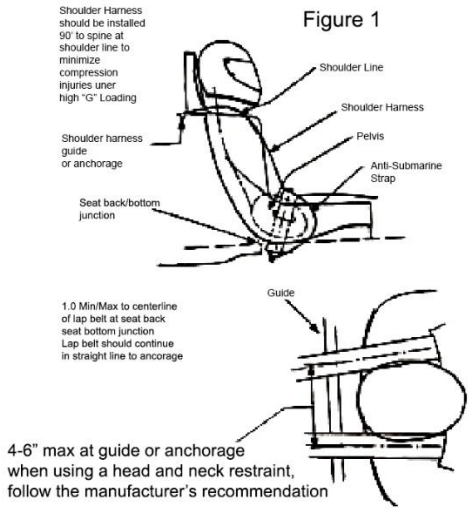
i. Restraint systems meeting SFI 16.1 or 16.5 shall bear a dated SFI Spec label. The certification indicated by this label shall expire on December 31st of the 5th year after the date of manufacture as indicated by the label. If for example the manufacture date is 2014 the fifth year after the date of manufacture is 2019. SFI labels, with expiration dates, expire on December 31st of the labeled expiration date.

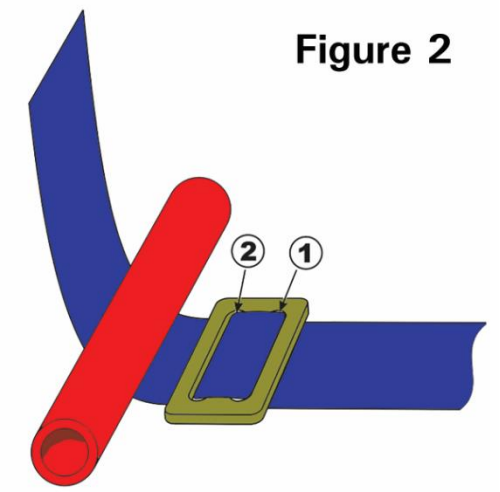
ii. Restraint systems homologated to FIA specification 8853/98 and 8854/98 will have a label containing the type of harness designation ('C-###.T/98 or D-###.T/98) and date of expiration which is the last day of the year marked. All straps in this FIA restraint system will have these labels.

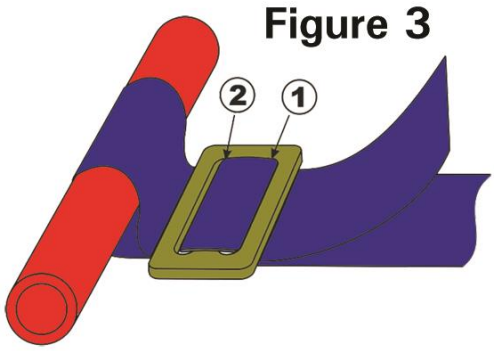
iii. If a restraint system has more than one type of certification label, the label with the latest expiration may be used.

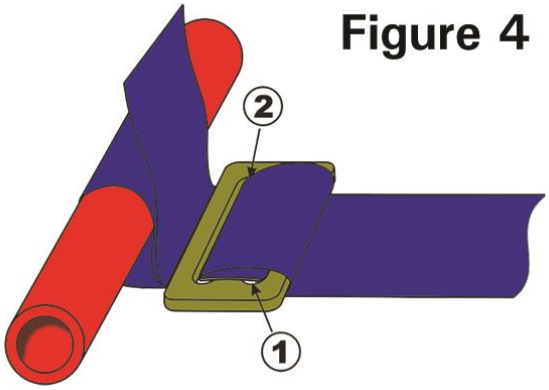
f. Harness Threading: Assemble in accordance with manufacturer's instructions. If no manufacturer instructions are given, use the methods shown in Figures 2-6.

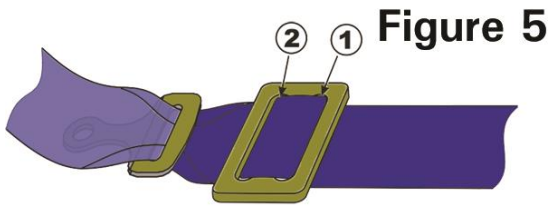
g. Snap-in mounting clips must be pinned to help prevent inadvertent opening of the clip if the manufacturer has provided a hole for such purpose.

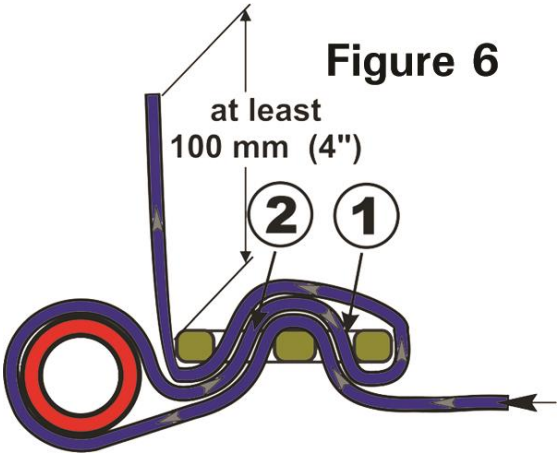












3. Safety Nets

a. Window Safety Net

Window safety nets shall be used on the driver's side window of all closed cars unless these are factory (OEM manufacturer) and FIA GT3/GT4 race prepared cars with fixed Lexan front

door windows as noted on a Specification Line. All window nets shall meet SFI Specification 27.1., and shall bear an "SFI Spec 27.1.,Label" to that effect. Alternatively, window nets that meet the requirements of FIA J253.11 may be used. Competitors must be able to provide proof of meeting the FIA standard, either via certification or physical measurement. (Note: Window nets need not be dated.) The window net shall be equipped with a quick release device and when released it shall fall down, thus not having to be flipped up on the roof. Nets shall be attached to the roll cage; plastic buckles, cable ties, hose clamps, and elastic cords are not permitted. Holes in the roll cage to accommodate either support rod are unacceptable unless bushed and welded completely. Refer to figures 7 and 8, "Proper Window Net Installation," for additional information on mounting methods. Closed cockpit Sports Racing cars may use arm restraints in lieu of a window net.

Figure 7

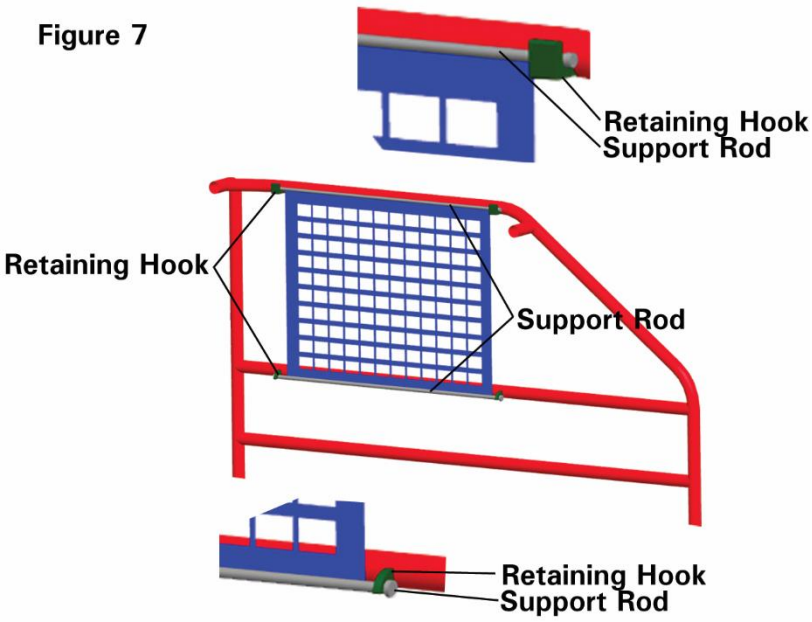
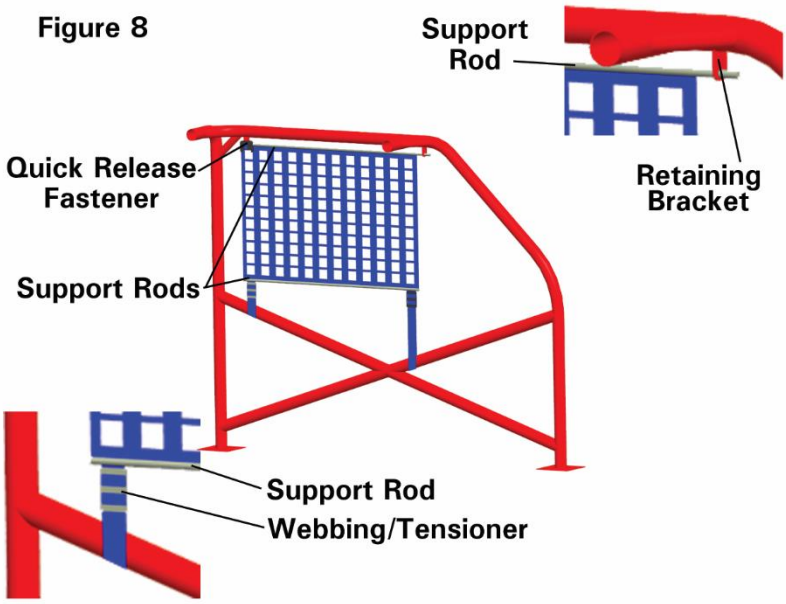


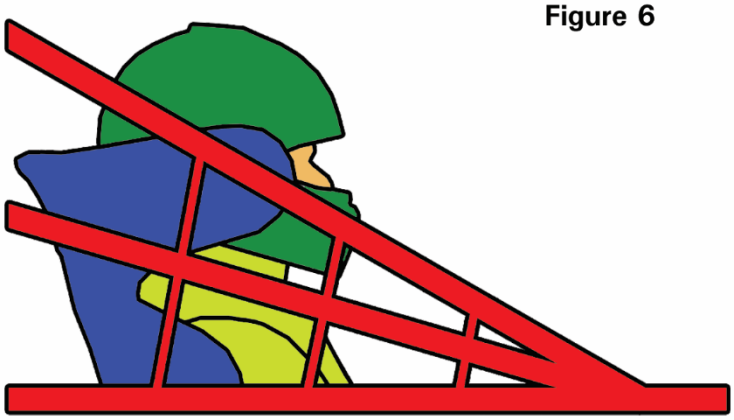
Figure 8



b. Inside Net

An inside net running between the main roll hoop and the dash is recommended for all production-based cars and two-seater Sports Racing cars (see figure 6). It is recommended that the lower strand of the net pass the shoulder and run horizontally from the cage to the dash. The upper strand should pass the Cg of the helmet in the side view. The net should run parallel to the center of the car in plain view and be as close to the seat as possible. It is recommended that the net be tensioned tightly and have a way to quickly disconnect it in case the driver needs to exit through the car in an emergency. Metal collars, or some other equivalent method, should be used to keep the strands of the net from moving along the roll cage. If possible, the recommended mounting method is to wrap the net strands around the back of the seat and attach them to the main hoop upright. However, teams should consult the net manufacturer to verify their recommended method of mounting.

Figure 6



H. Fire System/Suppression

All cars shall be equipped with an On-Board Fire Suppression of some type.

1. The minimum is a hand-held fire extinguisher meeting these requirements:

a. Halon 1301, 1211 or Dupont FE-36, two (2) pound minimum capacity by weight.

b. Dry chemical, two (2) pound minimum with a positive indicator showing charge. Chemical: 10 BC Underwriters Laboratory rating, potassium bicarbonate (Purple K) recommended, 1A10BC Underwriters Laboratory rating multipurpose, ammonium phosphate and barium sulfate or Monnex.

c. AFFF (aqueous film forming foam) or equivalent surfactant foam material, 2.25 liter minimum capacity (by volume). All AFFF fire bottles shall incorporate a functional pressure gauge.

d. The fire extinguisher shall be securely mounted in the cockpit. All mounting brackets shall be metal and of the quick release type.

e. The circle "E" decal of 9.3.22.A.3.b (above) shall not appear on cars which have only a hand-held fire extinguisher.

2. It is recommended that all cars employ onboard fire systems that meet the following requirements:

a. Systems certified to SFI specification 17.1 or 17.2, or Those listed by the FIA on Technical List No. 16 The following information must be visible of the unit:

- Certification label
- Capacity
- Type of extinguishing agent
- Weight, or volume, of the extinguishing agent

b. Cars shall meet the following regardless of registration date:

- The fire system cylinder shall be securely mounted in such a manner that it can be checked during a technical inspection and may be removed for weighing periodically for compliance to full weight shown on the cylinder. (Weight is without valve assembly.)
- Manual or automatic release is allowed. The release mechanism shall be within reach of the driver when belted in the car.
- All on-board fire systems shall be identified with two circle "E" decals–one at the release location and the second on the outside bodywork in line with or as near to the release location as possible.

On Board Fire System
Item #2607

I. Wheels & Tires

1. Wheels
Any wheel/tire may be used within the following limitations:

a. Wheels must be made of metal.

b. Any wheel stud, bolt, and or nut is permitted.

c. Original equipment wheels supplied by the manufacturer for the year(s), make, model and trim level(s) of the car may be used regardless of any restrictions listed. Note that this allowance does NOT permit the use of tires which are non-compliant for any given class or

category.

2. Tires must be 124 ("U") mph rated or better unless otherwise specified or controlled. In National Enduro Classing, a DOT approved tire with a treadwear rating of 200 is required.

a. Re-grooving of tires by any method once the tire has left the manufacturer is not permitted. Grooving or re-grooving of non-DOT tires is permitted. The only modifications allowed to DOT tires are having treads "shaved" or "trued."

b. Recapping of tires are not allowed in any class.

c. Tire size is unrestricted unless otherwise stated in class specific rules.

d. The use of tire warmers or cooling methods other than natural air convection or conduction is prohibited.

J. Brakes
Shall be pedal-operated, working directly on each wheel, and in good working order.

K. Steering & Suspension
Suspension and steering shall be of suitable design and in good working order. Unless OE, non-metallic suspension control arms, locating links, toe/steering links and pushrods are prohibited.

1. All steering components, except for the steering wheel, column, tie rods and toe links, must be original equipment supplied by the manufacturer. These parts may be strengthened, provided the original part can still be identified.

2. Steering wheels may not be wooden rimmed.

3. It is recommended that steering wheel locks be removed or disabled.

4. A collapsible steering column must be used.

L. Electrical

1. Master Switch
All cars, except those not required to have one by the SCCA GCR and prepared within their SCCA GCR Specs must be equipped with a master switch easily accessible by the driver and from outside the car.

a. Installation
The master switch shall be installed directly in either positive or negative battery cable and must cut all electrical circuits but not an on-board fire system. Solenoid-style master switches are permitted. All terminals of the master switch shall be insulated to prevent shorting out. It shall be clearly marked by the international marking of a spark in a blue triangle and mounted in a standard location.

b. Location
The kill switch is recommended to be installed in front of the windshield on either the cowl

or on top of the fender, but close enough to the windshield to be accessible if the car is overturned. Alternatively, it may be mounted below the center of the rear window or on a bracket welded, clamped or bolted to the roll cage or dash, easily accessible through the open window. (Drilling of holes in roll cage to attach the bracket is prohibited.)

c. Marking
Off position shall be clearly indicated at the master switch location.

Note: Decal can be purchased through my.scca.com.

2. Non-Tractive System Batteries
Battery location is unrestricted within the bodywork. If located in the driver/passenger compartment, vented wet cell batteries must be in a nonconductive marine type container or equivalent. The hot terminal must be insulated on all cars. All batteries (on-board power supplies) must be attached securely to the frame or chassis structure independent of the marine type container.

3. Lithium-Ion Batteries
Cars using a lithium-ion battery must display the green and black Lithium Battery decal near the kill switch. Cars without a kill switch (Touring and B-Spec) using lithium-ion batteries must display the green and black decal on the top of the driver side door near the window opening. Small lithium-ion batteries that power auxiliary devices within the vehicle (radios, cameras, data acquisition, etc.) do not require the decal to be displayed on the vehicle.

M. Engine & Drivetrain
The engine, transmission, differential cases, transfer cases, etc. must be securely installed, free of leaks and in sound mechanical condition.

N. Other

1. Carburetor Fuel Inlet

On all carburetors with a non-threaded fuel inlet fitting, the fitting shall be replaced by drilling and tapping the carburetor body for a threaded fitting.

2. Mobility Decal

If a driver will need assistance getting out of their car, the Mobility & Impairment decal (Figure 4) shall be displayed on the driver's door.

O. Fuel/Fuel Systems

1. Fuel Type

Fossil fuel-powered vehicles must run on readily available unleaded gasoline with a maximum octane of 93. A spec fuel may be declared in the event supplemental regulations.

a. When run as supplemental classes, GCR-class cars must run on GCR Legal Fuel.

2. Fuel/Tank Cell Specifications

Stock fuel tanks located between the axle center lines and within the main chassis structure (i.e., frame rails, etc.) may be used in its stock location or replaced with a safety fuel cell. Stock fuel tanks outside of these dimensions must be replaced with a safety fuel cell.

If a Fuel cell is used, it must meet the following specifications:

a. Any safety fuel bladders must be constructed and certified in accordance with the FIA FT-3 or higher (FT-3.5, FT-5, etc.) or SFI 28.3 specifications. Fuel cells do not time out and have no expiration date. All safety fuel cells shall consist of a foam-filled fuel bladder enclosed in a metal container at minimum.

b. There is no restriction of fuel cell capacity or dimensions of the fuel cell, except where otherwise specified.

c. The installation of more than one cell is permitted.

d. Installation

Internal body panels may be modified to accommodate the installation of fuel cells as long as modifications serve no other purpose. If installation includes encroachment into the driver's compartment, a metal bulkhead must prevent exposure of the driver to the fuel cell. The fuel cell must not be installed any closer to the ground than 6 inches, unless

enclosed within the bodywork or OEM floor pan.

i. There must be a metal bulkhead between the driver/passenger compartment and the compartment containing the fuel cell. This includes fuel cells that are flush mounted with driver/passenger compartment panels or otherwise exposed to the driver/passenger compartment.

ii. Fuel cells must be located within 12 inches of the standard tank. The 12-inch measurement is taken from the perimeter of the stock and alternative fuel cell. Fuel filler location is unrestricted with installation of a safety fuel cell.

e. Container

i. The bladder shall be installed in a container of .036-inch steel, or .059-inch aluminum that fully surrounds the bladder.

f. Fuel Cap and Vents

i. A positive locking fuel filler cap (no Monza/flip type) shall be used. Fuel pickup openings and lines, breather vents, and fuel filler lines shall be designed and installed so that if the car is partially or totally inverted, fuel shall not escape. Fuel filler necks, caps, or lids shall not protrude beyond the bodywork of the car.

ii. If the fuel filler cap is located directly on the fuel cell, a check valve is not required, provided the filler cap is a positive locking type and does not use an unchecked breather opening. If the filler cap is not located on the fuel cell, a check valve must be installed on the fuel cell to prevent fuel from escaping if the cap and filler neck are torn from the tank.

iii. Fuel cell breathers must vent outside the car and away from the exhaust.

g. Rotary Molded Cell
The use of rotary molded fuel cells not having a bladder, or not contained in a metal can, is allowable in those cars that do not require the use of a fuel cell, but where they are an allowed option.