



SVRA General Rules and Regulations (Page 1 of 11)

Revision Date **01/2023**

Purpose:

SVRA's purpose is to promote the historical preservation and use of racing cars, to create a spirit of safety consciousness among their drivers and to maintain an atmosphere of friendly competition at SVRA events.

The object is to present a venue for racecars that are accurately prepared to a period configuration and specifications as to recreate a lost era in Motorsports.

Appearance of the car and authenticity of its configuration is a vital component for SVRA acceptance.

Vintage Racing is an amateur sport where the pleasure of "Taking Part" must exceed the desire to "Win at All Cost." All competitors must know the limits of their skills and of their machines.

Vehicle Eligibility Definitions:

1. Eligibility period: A historic period beginning and ending with cut-off dates.
2. Period specification: The configuration of a car as raced during the eligibility period.
3. Continuation car: A make or model that was manufactured after the end of an eligibility period, but is identical to those produced during the eligibility period.
4. Replica: A race car whose actual construction was by other than the original manufacturer, or at a date later than the original production run, but still accurately meets the period specifications of the original
5. Year of Manufacture: Actual year car was built.
6. Year of Preparation: Year represented by newest racing specifications found on the car, regardless of the manufacture date.

MANDATORY MEDICAL IMPACT CLEARANCE:

Following any impact with another car, a tire barrier, a wall, etc. that necessitates the withdrawal from the race or deemed appropriate by the Race Director or his designate, involved driver(s) must report to the track medical facilities for clearance. Any driver that does not receive medical clearance from the track medical facility will not be permitted to race again until a written medical clearance from a licensed medical doctor is provided. Drivers must report to the Competition Director before approval can be given to return to racing, the Competition Director will have the final say in these matters.

These rules are general in nature and may not fully apply to every car accepted by SVRA. It is not possible for SVRA to publish rules that accurately define the period authenticity for all eligible cars. It is therefore the responsibility of each competitor to research the proper period specification for his car, and to present it as such. Most Make and Model (Spec Sheets) are published and give specific details on permitted options and modifications. These (Spec Sheets) are to be used in conjunction with the General Rules and Regulations as well as the Group specific Regulations. The Group Regulations for each Racing Group contains details that apply to that Group only and also need to be considered when preparing a car.

Proof of any unusual specification or configuration is the responsibility of the competitor and may or may not be approved. Updating or backdating within a recognized model (body type) production span is allowed as long as it does not conflict with the group eligibility time period. Continuation cars may be accepted, but they must be backdated to the eligibility period and must be a faithful representation to the original.

Log Books All cars must have a logbook that is presented at tech inspection. Any discrepancies noted at the last event should have been rectified. Cars not having a logbook will be issued one after the Technical Director is satisfied that the car meets all of the eligibility and safety requirements, and that the owner is an active SVRA member. Logbooks from other organizations will be honored.

Body: The body configuration should be as raced "in period". All body parts must be of the same material and design as those supplied by the manufacturer as standard or an option.

1. Undocumented supplemental aerodynamic devices such as spoilers, air dams and wings are not permitted. Fender flares and fender widening are only permitted on production cars if the car raced in that configuration during the eligibility period.
2. Interiors must be neat and finished. Supplemental gauges are allowed. Driver's seat may be replaced with a racing type seat. Loose carpeting must be removed. An approved polycarbonate material may replace windshields and other glass. It is permitted to remove the windshield on open cars; however, a suitable transparent racing windscreen must be fitted in its place.
3. The grill must be in place on production cars. Bumpers may be removed, but no substitute devices are permitted.
4. Production cars prepared to 1970 or earlier specifications should have headlights or blanking covers. Production cars prepared to 1971 or later specifications may have headlights removed and use the opening for ducting.
5. Historically significant markings and graphics are encouraged. Modern sponsorship must be discreet.

Engine: The correct engine displacement is required. The entrant must, with certainty, disclose the actual engine displacement. Engines must be of the original type; size and design as originally fitted by the manufacturer and mounts must remain in the correct location.

The following modification restrictions apply:

1. An overbore of 1.2mm or .047" is permitted unless class rules state otherwise. The standard stroke must be retained.
2. Wet sump may not be converted to dry sump unless group / class rules state otherwise. Any accumulator (Accusump) is permitted.
3. Induction system must be as raced in period. Dual throttle Springs are required.
4. Blocks and heads must be of the same material and design as provided by the manufacturer. Modern aftermarket blocks and heads are prohibited unless they are identical to the originals.

Electrical system:

1. Electronic ignition is allowed, but the trigger and distribution of spark must be from the distributor, unless the standard system was otherwise.
2. All cars should have a working charging system unless they historically ran without one. Production cars without charging systems will have **25# added to their official weight**.

Wheels and Tires: Wheel diameter must be as originally fitted unless permitted in (the Spec Sheets). The standard width may be increased by 1.5". Any other diameter or width must be a specifically listed option. Wheels must be of period design.

All SVRA groups and some individual car classes have specific Tire Regulations. In most cases tires are restricted by their profile and tread pattern. Tires must be mounted following the manufacturers specification for wheel width. Bodywork may not be modified beyond period specifications to accommodate tires. **All Approved tires are listed in the SVRA Tire Regulations.**



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Race Groups:

SVRA defines 13 Race Groups plus a few Special Invitational Groups at the present time. These may be combined or divided from time to time depending on the total entries at a particular event. SVRA reserves the right to alter these groups as necessary to provide safe competition. Each Race Group Rules sheet shows classes and rules that are particular to that Race Group.

Acceptance:

All cars **must have** a current **Race Car Certification Form, Engine Certification Form** and photo on file before an entry will be accepted.

The SVRA may accept non-compliant cars and replicas from time to time at its discretion.

Participation at an event or the issuance of a logbook is no guarantee of continued acceptance.

The intentions of the SVRA regulations are to update the safety features of the cars and to maintain the relative performance and behavior characteristics of the individual make and models.

Relevant Documents for Car Preparation:

- SVRA General Rules and Regulations
- SVRA Group General Regulations
- Make and Model Regulations
- SVRA Tire Regulations

It is the responsibility of each competitor to research the proper period specification for his car, and to present it as such.

Transmissions: Must be equivalent to the unit provided by the manufacturer (See Spec Sheets for options) Upgrading to a Dog Ring type transmission will incur a weight penalty.(see Group Regulations) Gear ratios are free unless Group rules state otherwise, no increase in the number of forward speeds. Reverse must work.

Suspension: The system of suspension (spring, shock type and control arms) may not be changed and must attach to the stock mounting locations.

1. Anti-roll bars may be added or deleted.
2. Spring rates & heights are free within ride height restrictions.
3. Cars with leaf spring rear axles may add axle control devices (traction bars) and may not enter drivers compartment without approved historical documentation. All cars with live axles may add a transverse locating device (Panhard bar, Watt's link, etc.). (Traction bar devices must be period correct and may not penetrate the driver compartment unless specifically Homologated for the model of car.)
4. All hubs, spindles, axles, axle housings, drive shafts, lug bolts, mounting points and other suspension parts may be strengthened for safety as long as the track width, wheelbase and **geometry is not altered**.

Brakes: Braking system must be of the same type as was standard or offered as an option.

1. Dual braking systems are required. A working hand brake is acceptable in lieu of dual master cylinders.
2. Lining material is free.
3. Alternate rotors and drums of the same diameter and thickness are permitted. Rotors may be drilled or grooved.
4. Alternate calipers or wheel cylinders must be of the same material, design and number of pistons as the original component. There must be no increase in the frictional surface of the pads or shoes.
5. Brake ducting is permitted provided no modifications are made to the body. Backing plates may be removed or modified for this purpose.

Official weight: Virtually all cars that race with SVRA have an official weight. The Official Weight must be met or exceeded at all times during an event. Unless specified, all official weights are taken with driver, exiting the track. Add 185# for driver weight to the specified car weight for total official weight. The weight is the weight, there is no tolerance.

The official weights are listed in the Makes and Models Supplemental Regulations (Spec Sheets) and have been derived loosely from the relevant SCCA, IMSA, FIA, Homologation figures. Any weight penalties (see Make and Model Supplemental Regulations) will be added to the official weight, SVRA may also specify added weight to cars for competition purposes or for unapproved modifications. **All cars must have the minimum weight displayed in 1" characters on the driver door or front fender. It is the responsibility of each competitor to research and calculate the weight, with any applicable weight penalties and show that calculation in the logbook.**

General Race Preparation:

- A. All fluid filled lines and containers must be secure and free of any leaks. Catch cans are required on all openings or vents that could expel fluids except Fuel cells, the vent line must exit the bodywork. Coolant overflow should have a separate catch can. All drain plugs should be safety wired.
- B. All cars, except formula cars, must have at least one working brake light. Formula cars must have a working rain light.
- C. All cars must have mirrors fitted which provide clear view to the rear, and along both sides of the car.
- D. Hoods, deck lids, doors and other bodywork must be securely fastened. Doors may be pinned as long as provision is made for quick exit from the car. Louvers may be added to the hood for engine cooling.
- E. There must be an electrical cut-off switch to isolate the battery and cut off the ignition. Such switch must be accessible from outside the car and be clearly marked. **See appendix A**
- F. Batteries must be securely mounted with a metal hold down device. The hot terminal of the battery and the cut-off switch must be insulated against grounding.
- G. Competition numbers must be displayed legibly and neatly on both sides of the car, using a minimum height of 8" and a stroke of 1.25", fixed on a contrasting background. Magnetic or static adhesion numerals are not acceptable. Groups 1, 3, 6 and 8 must have class designation letters next to the competition numbers. Example: FP, AP, BS, TA ect.



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Driver Eligibility:

A. Definitions

Member: Holds current SVRA Driver's Membership License and Medical.

Current Medical: Applicant's Medical History Form completed by Applicant and Physical Examination Form completed by your physician within the last 2 years. The Forms may be from SVRA, SCCA. All other forms would require SVRA approval. Anyone over 40 must have an EKG as part of this examination.

Rookie: Anyone who has not successfully completed two race events with SVRA. Completing an event means posting a finishing result on the Feature Race for the weekend and not having any incidents throughout the weekend.

SVRA has a Rookie program in place to provide a method of acclimation of new members to Vintage Racing and promote the safety and fun of the sport. All rookies will have a rookie stripe on their vehicle. These are available at Tech. Any rookie meeting at the event is mandatory for all rookies.

B. Acceptance: SVRA reserves the right to exclude any participant from a sanctioned SVRA event. Acceptance at all events is usually on a first come, first serve basis. However in the event of over subscription, SVRA members are given preference over Non-members.

Responsibility:

It is each competitor's responsibility to obtain, understand and comply with all Rules and Regulations, which apply to his car. Non-compliance may result in exclusion or disqualification. Ignorance of these rules is no defense.

General Race Preparation(cont.):

H. Headlights and other glass lenses must be covered or taped. Glass headlights may be blanked as long as the trim or bezel is retained.

I. Coolant must not contain any ANTI-FREEZE. Non-slippery water wetting agent is permitted.

J. The firewall and floor shall prevent the passage of flame and debris to the driver's compartment. All holes must be properly sealed.

K. Hard tonneau covers are prohibited. Canvas tonneau covers are allowed.

L. Cars with drive shafts must have a hoop or a structure to prevent the drive shaft from dropping and entering the driver's compartment.

M. Electric fuel pumps: It is recommended that all cars equipped with an electric fuel pump also be fitted with an oil pressure controlled cut-off switch. (NAPA 701-1577)

Safety Equipment:

A: Driving Apparel:

All drivers are required to wear a suit that covers his or her entire body from neck to wrists and ankles. Drivers must also wear fire resistant gloves, socks, and shoes. Drivers with facial hair must wear a fire-retardant hood (balaclava).

Driving suits, underwear, gloves, socks and shoes must be certified by SFI or FIA.

SFI certified Driving suits must have SFI 3.2A/1 rating or higher (3.2A/3, 3.2A/5, 3.2A/10 3.2A/15, or 3.2A/20). Suits rated SFI3.2A/10 or higher will require recertification every 5 years. Driver suits with a SFI3.2A/1 and SFI3.2A/3 rating must be used with fire retardant underwear. SFI 3.2A/1 suits offer minimum protection (rated for only 3 seconds); it is highly recommended that these suits be replaced with a higher rated suit.

FIA certified driver's suit must have a homologation label of FIA 8856-2000.

Underwear must be made to SFI 3.3 and or FIA 8856-2000 specification.

Socks must be made to SFI 3.3 and or FIA 8856-2000 specification.

Shoes must be made to SFI 3.3 and or FIA 8856-2000 specification.

Gloves must be made to SFI 3.3 and or FIA 8856-2000 specification.

Regardless as to the rating of the suit, fire retardant Nomex or Carbon-X underwear is strongly recommended.

ANY UNDERWEAR INCLUDING T-SHIRTS, BRAS, BOXERS, AND SOCKS MUST BE MADE OF A FIRE-RETARDANT MATERIAL. ITEMS SUCH AS COTTON UNDERWEAR OR UNDER ARMOUR ARE NOT RECOMMENDED. USING THESE MAY RESULT IN SERIOUS BURNS IN THE EVENT OF A FIRE.

B: Helmet

It is required that all drivers wear an automobile rated racing helmet of **SA2015 or newer** or the equivalent FIA specification 8860-2010. "M" rated motorcycle helmets are not allowed. All drivers must wear adequate eye protection.

Helmets showing signs of abuse or damage or that have been altered must be replaced.



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Safety Equipment cont:

C: Restraint System

All cars must be equipped with driver restraint systems with SFI or FIA certification. SFI certification 16.1, 16.5, and 16.6 and FIA 8853/98 will be accepted.

SFI Certification – SFI tagged restraint systems are punched with the month and year of manufacturer. SFI 16.1, and 16.5 expire two (2) years after the date of manufacture at the end of the month of manufacture as indicated on the label. There should be labels on each harness – one on a shoulder belt, one on lap belt and one sub-strap.

FIA certification – FIA tagged restraint systems have the expiration year printed or stamped on tags. These harnesses are good for a period of 5 years ending on December 31st of the year printed or stamped on the tags. There should be one FIA tag on each element of the harness.

Properly certified harnesses meeting these specifications must be used at all times. **Out of date harnesses will not be allowed.**

Replacement – Safety harnesses shall be replaced if out of date, or if webbing is cut, frayed, faded, or has any visible damage. Harnesses must be replaced if buckles are bent or cracked, or the car had a severe impact.

Harnesses are to be installed per manufacturer's instructions and SFI Installation guide. **See Appendix B**

D: Head and Neck Restraint

All drivers except for pre-war must use a head and neck restraint system. The head and neck restraint system must be certified by either SFI certification 38.1 or FIA certification 8858-2002

Head and Neck Restraint Systems shall be recertified every five years after the date of original certification. Product inspection, maintenance, and/or replacement procedure is per individual manufacturer. Inspection must be done by an authorized recertification center. When a unit is determined by the manufacturer to be acceptable for continued service and in compliance with the current version of the specification, the original manufacturer shall place on the product a new SFI 38.1 conformance label marked with the inspection date along with new correctly dated tethers, the FIA devices will need a new dated tether every 5 years.

Devices that do not actually carry an SFI or FIA certification sticker are not approved.

For HANS Device users, harness shoulder belt webbing must be in direct contact with the yoke of the HANS; there shall not be any padding between the shoulder harness webbing and the yoke of the HANS.

E: Window Net

Sedans and Coupes, where possible, must have a window net installed on the driver's side. Both passenger and driver windows must be down. The window net must be attached to the cage. All window nets must be SFI 27.1 certified. Net design must allow for one-handed removal in the event of an accident. The use of tie straps or zip ties is prohibited. In the event cage and car design prevent the installation of a window net, arm restraints are required.

Window nets expire two (2) years after the date of manufacture at the end of the month of manufacture indicated on the label. Nets with no label will be considered out of date.

F: Arm Restraints

Arm restraints meeting SFI 3.3 specification must be used by all open wheel race cars, sports racers, open (convertible) production cars, and sedans and coupes that window nets cannot be installed in. Arm restraints should be attached to the forearm and limit the movement of the driver's hands to just above the helmet.

G: Safety Nets – Racing Nets

Safety nets, interior nets, or roll cage nets are strongly recommended. These nets are designed to catch head and shoulders in angled and side impacts. The triangular shaped net should be attached to the roll cage behind the seat with the upper part capturing the head just below the line of sight, the lower part capturing at least 6 inches below the top of the shoulder. The net should wrap around the seat a few inches to provide additional support to the upper part of the seat. It should be attached to the front part of the cage, the chassis, or a combination of both with a quick release lever towards the front attachment point. Net must be SFI 37.1 certified or met FIA 8863-2013 standards and may be installed on both sides of the driver.

SFI 37.1 Safety nets expire two (2) years after the date of manufacture at the end of the month of manufacturer indicated on the label. FIA 8863-2013 safety nets expire 5 years from date of manufacturer. Nets with no label will be considered out of date.



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Safety Equipment cont:

H: Drivers Seat

Racing seats are strongly recommended that are SFI or FIA rated. Seats made primarily of plastic, PVC, ABS, or other similar polymers are prohibited.

The driver's seat and sliders if used must be securely mounted and braced. All mounting hardware must be grade 8 or better with a minimum 2-inch diameter or larger steel plate or load bearing washers when mounting to sheet metal.

Head rests are required. The head rest must extend above the midpoint of the helmet on the vertical plane of the seat back in the normal driving position. Head rest must be a minimum of 36 square inches. Head rest must be within 3 inches of the helmet when the driver is in the seat. Padding must cover the head rest and it must be high density padding meeting SFI 45.2 specification.

I: Roll Bar – Cage and Padding

Roll Bars: Suitable roll bars are required on all cars. The actual design is left up to the car owner, but should follow sound design standards. The SVRA publishes a separate sheet on roll bar guidelines. These are derived from SCCA and HA specifications. **See appendix C**

The basic purpose of the roll bar is to protect the driver if the car rolls over or is involved in a serious accident. Parts of the roll bar or roll cage deemed to serve no practical purpose other than chassis stiffening may be considered in violation of the intent of these rules and are subject to weight penalty and or reclassification.

The top of the main hoop must be 2" inches above the driver's helmet.

Padding must be high density and meet SFI specification 45.1 or 45.2 or the FIA equivalent. High density roll bar padding is required to cover any tubular element that may possibly contact the head and in particular any bar that is within 12 inches of the head. Padding must be secured by zip-ties, racing (duct) tape, or high strength adhesive or a combination thereof. Low density, soft tubular padding can be used in other areas such as door bars and shin bars but may not be used in potential head contact area.

J: Towing

Towing eyes: All cars with the exception of open wheel formula cars and certain sports racers must have a dedicated towing eye at the front and rear of the car. They must be easily visible and designated with a sticker.

K: Exhaust

Exhaust system & ventilation: Exhaust systems must end behind the driver's position. Coupes must have an exhaust system designed so that gasses cannot enter the driver's compartment. The driver's window must be fully open on closed production cars (sedans).

L: Fire System

All cars must be equipped with an onboard Fire Suppression System. Any mass-produced Fire Suppression System specifically designed for road racing applications are acceptable.

Fire systems shall be installed according to the manufactures recommendations. System is to be installed with a minimum of two (2) nozzles; one for the engine compartment and one for driver's seating area. The activation point shall be identified by a red and white circle "E" decal.

The agent shall be capable of suppressing a Class B fire, defined by this standard as a special hazard.

On Board Fire Suppression Systems and Fire Extinguishers shall be maintained according the manufacture's recommendations.

M: Fuel Cells

Fuel Cells: All cars, other than pre-war, must have a Fuel Cell that meets FIA FT-3 specification or equivalent SFI 28.3 specification. The Fuel Cell "Bladder" must be maintained according to the manufacture's recommendations. **Production based cars where the stock fuel tank is located between the axle center lines and within the main chassis structure (i.e., frame rails, etc.) may use the stock fuel tank.**

There must be a solid bulkhead (fire wall) completely separating the fuel tank, fuel pump, fuel cell, filler neck hoses, and/or vent lines, from the driver's compartment. Vent lines must exit the trunk/bodywork area.

Appendix A

Electrical Disconnect

A standard electrical disconnect is required on all cars.

This switch must be wired such that electrical power to all circuits including the alternator is disconnected, except to an electrically operated on-board fire extinguishing system.

In the interest of convenience, the switch may be mounted near the battery and operation effected by a pull wire passing to the outside. The preferred location of the pull wire is on the driver's side. It must be clearly visible and its position with an approved decal of "lightning bolt" and the word "OFF".



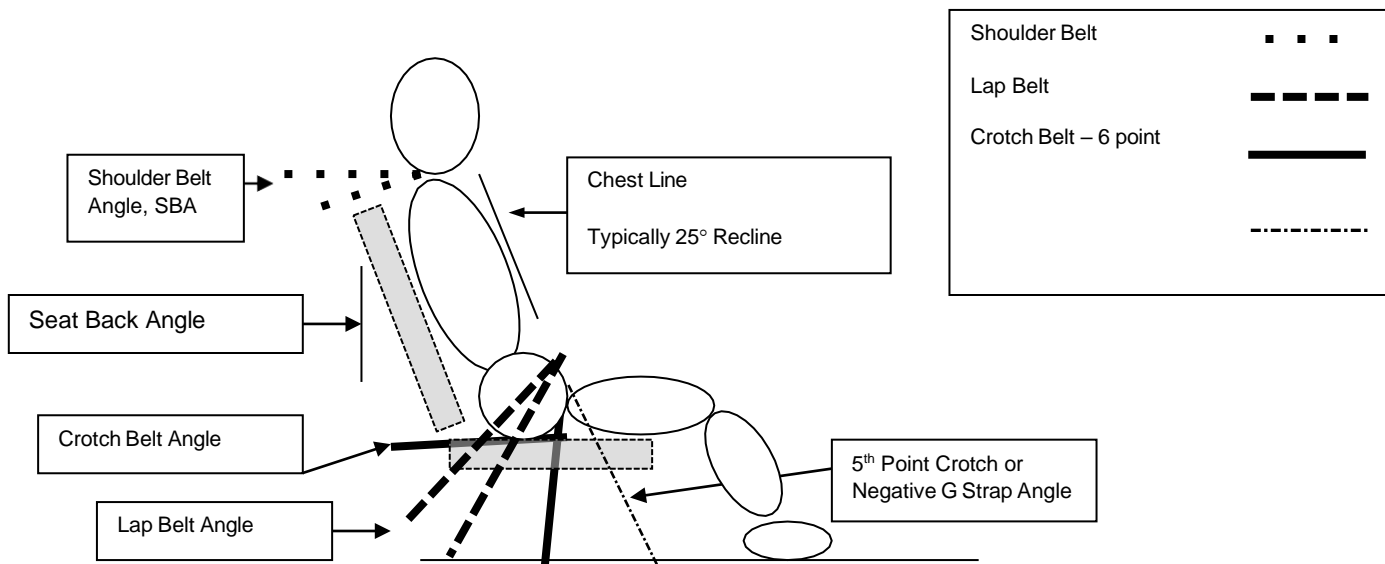
Appendix B



SEATBELT INSTALLATION GUIDE*
FOR UPRIGHT SEATING
(UP TO 25° RECLINE SEAT BACK ANGLE)

June 5, 2012

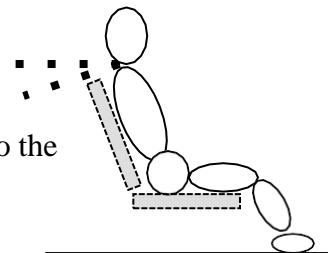
***IMPORTANT NOTICE:** The purpose of this guide is to provide motorsports vehicle drivers, owners and mechanics with additional information on seatbelt installation. This guide is for informational purposes only and in no way should it be construed to be an express or implied warranty of safety or guarantee that Driver Restraint Systems mounted in accordance with this guide will prevent any injury, systems failure, property damage, or death. Participation in motorsports carries with it the risk of serious injury, property damage and death at all times regardless of which driver restraint systems are used. This informational guide does not supersede or replace product manufacturers' installation instructions or sanctioning body rules and requirements. This guide applies to Driver Restraint Assemblies which pertain to the SFI Specification 16.1 and SFI Specification 16.5 compliance programs. Prior to any seatbelt installation or installation modification, consult with the motorsports vehicle builder, seatbelt manufacturer, and sanctioning body. At all times the driver and vehicle owner have prime responsibility for the safe installation and use of seatbelts.



SHOULDER BELTS

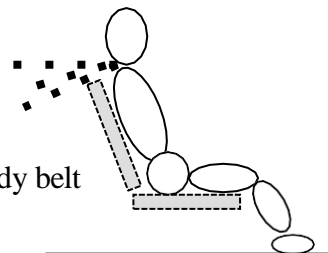
Shoulder Belt Angle: 0 to -20° (-10° optimum) from horizontal

- Clear passage of webbing from top of shoulder (or head and neck restraint) back to the harness bar or mounting point without any interference of the seat openings
- Belts should be as short as possible back to the mounting points

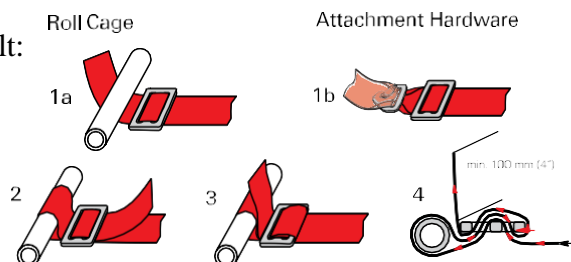


Double Shoulder Belt (Over/Under Belt):

- Upper belt (2" belt) 0 to -10° (-10° optimum)
- Body belt (3" belt) -10 to -30° (-20° optimum)
- Separation between upper and lower belt 1" to 2"
- Upper belt mounted to line up with the inside edge (closer to the neck) of the Body belt



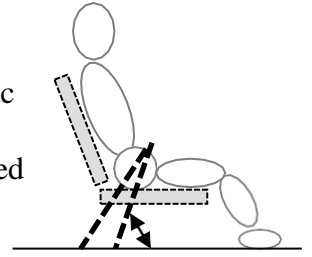
Proper Wrap of Shoulder Belt:



LAP BELTS

Lap Belt Angle: -45° to -80° from the horizontal

- Belt should ride within the curvature of the pelvic bone preferably just below the iliac crest
- There should be clear passage through the seat opening without webbing being corded or binding on edges of seat openings with a direct path to the mounting point
- The webbing should not ride against any hardware such as seat mounting brackets, bolts, or tabs
- Lap belt adjusters should be clear of the seat openings. Pull-up adjusters if outside the seat opening should be a minimum of 2" below the opening when the lap belt is tightened
- Belts to the mounting point should be as short as possible mounted beside the seat and never behind the seat
- Lap belt should be allowed to pivot freely at the mounting point
- Webbing should be allowed to pull on hardware in plane (straight)



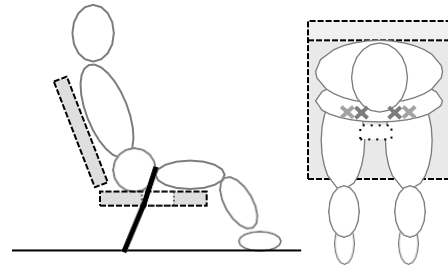
Position of the Cam Lock or Latch and Link

- Centered on the body 1 to 2 inches below the belly button when all belts are tightened

CROTCH BELT – 6-POINT

Sports Car “Shell Type Seat” and aluminum seats with single crotch belt hole forward of the inside seat back from 10 to 12 inches: *(NOTE: Seats with a single hole positioned more than 12 inches from the inside seat back are designed for 5 point belt installations and may not be as effective for 6-point installations):*

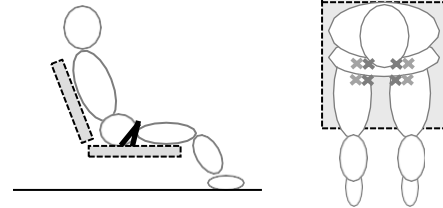
- Crotch Belt Angle: -20° (2" rearward) through the hole
- Two separate anchors 4 to 6 inches apart (x)



Containment Seats with Crotch belt mounting directly to seat bottom OR through holes provided at the back of the seat bottom: *(Driver is sitting on the Crotch belts)*

- Crotch Belt Angle -10° to -20° from the perpendicular just in front of the crotch with anchors 4 to 6 inches apart ()

x



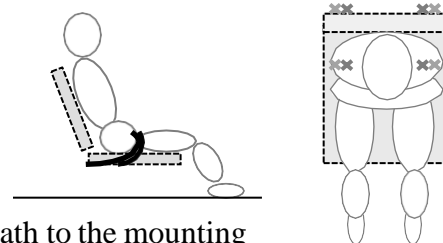
OR

- Crotch Belt Angle Horizontal rearward to under the butt or to the back of the seat ()

x

Option (typically for single-seat wide cockpits):

Crotch Belt mounting to the front side of the outboard lap anchors. (Option not illustrated)



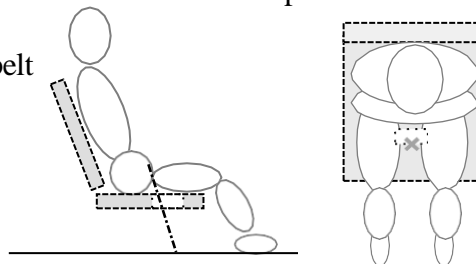
Considerations:

- Routing of crotch belts should have a clear and unobstructed path to the mounting point

CROTCH BELT – 5-POINT

Sports Car “Shell Type Seat” and aluminum seats with single crotch belt hole forward of the inside seat back from 11 to 13 inches:

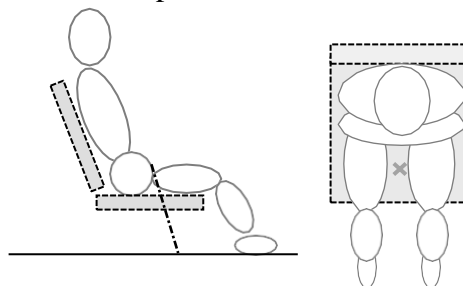
- Crotch Belt Angle: Chest line to 20° through the hole
- Crotch Belt should never wrap around the front of the seat – there should be a pass through
- Crotch belt is used only to maintain position of the lap belt



NEGATIVE G BELT – (7TH POINT)

Negative G Strap Angle: 20° to 25° (Chest line extension on a 25° seat back angle)

- Used in conjunction with a 6-point crotch belt system as an additional point to maintain the position of the lap belt in “Negative G” i.e. rollovers



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Appendix C

SVRA ROLL BAR AND ROLL CAGE DESIGN RECOMMENDATIONS

Based on the 1972 GCR (Revised 12/31/2021)

A. Basic Design Considerations

1. The basic purpose of the rollover structure is to protect the driver if the car turns over, runs into an obstacle such as a guardrail or catch fence, or is struck by another car. It must be designed to withstand compression forces from the weight of the car coming down on the rollover structure, and to take fore and aft and lateral loads resulting from the car skidding along the ground on its rollover structure.
2. A system of head restraint should be designed into the rollover structure if possible. The head restraint should have a minimum area of 36 square inches and be padded with a non-resilient material such as Ethafoam or Ensolite.
3. Forward braces and portions of the hoop that are subject to contact by the driver's body should be padded with the above type materials.

B. Material

1. Seamless, ERW or DOM mild steel tubing (SAE 1010, 1020, 1025) or equivalent or alloy steel tubing (SAE 4125, 4130)(T-45). Alloy steels must be normalized to relieve stress after welding. ERW tubing must have the weld to the inside of all bends.
2. An inspection hole at least 3/16" diameter must be drilled in a non-critical area of the main hoop to facilitate verification of wall thickness. All bolts must be of a minimum diameter of 3/8" SAE Grade 5 or equivalent aircraft quality.

C. General Construction

1. One continuous length of tubing must be used for the main hoop member, with smooth, continuous bends, and no evidence of crimping or wall failure. Whenever possible, the hoop should start from the floor of the car, and in the case of tube frame construction, be attached to the chassis tubes by means of gussets or sheet metal webs to distribute the loads. It is recommended that gussets be used at all joints. 2. All welding must be of the highest possible quality, with full penetration and must be done according to A.S.T.M. specifications for the material used.

D. All Cars

1. **Minimum tubing sizes** for front and main hoops and all required bracing:

Vehicle Race Weight	Mild	DOM	Alloy Steel (4130)
Under 1500 lbs.		1.50" x .095"	1.375" x .095"
1500 to 2500 lbs.		1.50" x .120"	1.50" x .095"
Over 2500 lbs.		1.75" x .120"	1.625" x .095"

Optional bars and braces may be of any suitable diameter and wall thickness.

2. Mounting plates

Welding is the preferred method for securing the bar or cage within the car. Mounting plates bolted to the structure of the car shall not be less than 3/16" thick, with a back-up plate of equal thickness on the opposite side of the panel, with the plates bolted together. There must be a minimum of three bolts per plate. Whenever possible, the mounting plate shall extend onto the vertical section of the structure, such as a door pillar.

3. **Door Bars.** All cars must have adequate drivers door impact protection, a minimum of 2 door bars are required, installed high enough to protect the driver and not designed for ease of entry. Dual horizontal or an X design are acceptable.

E. Open Cars

1. The main hoop may be either the full width of the cockpit, or a partial cockpit width. (only behind the driver.)

2. **Height--**The top of the main hoop must not be less than 2" over the driver's helmet.

3. **Bracing.**
- A full width main hoop must incorporate a diagonal lateral brace.
 - The main hoop must have two braces extending forward or to the rear, attaching to the frame or chassis.
 - These braces must be attached as near as possible to the top of the main hoop (not more than 6" below the top, and at an included angle of at least 30 degrees).

F. Closed Cars

1. The main hoop must extend the full width of the driver/passenger compartment and must be as near the roof as possible.

2. If a front hoop is installed, it should follow the line of the front pillars and be connected by horizontal bars to the main hoop on each side at the top. Alternatively, two side hoops following the line of the front pillars to the top of the windshield (as close to the roof as possible), then horizontally to the rear, attaching to the main hoop. These two side hoops are to be connected together by a tube over the top of the windshield.

G. Removable Roll Bars

Removable rollover structures are permitted, but they must be very carefully designed and constructed to be at least as strong as a permanent installation. If one tube fits inside another tube to facilitate removal, the removable portion must fit tightly, and must bottom by design, on the permanently mounted tube, and at least two SAE 3/8" Grade 5 bolts must be used to secure each joint. The telescope section must be at least eight inches in length.

H. Older Cars

Special care must be exercised in older cars that may have metal fatigue or rust damage, to insure that a sound junction is made between the roll-over structure and the body or chassis. In some cases, it may be wise to strengthen, or double the floor or other mounting point, or to run a lateral bar along the floor, between the main hoop upright legs, to prevent the structure from being pushed downward, and through the floor. For originality sake some owners may not wish to sacrifice appearance. However, it is possible to build a reasonably safe system without altering outward appearance significantly.

I. Modern Materials and Techniques

It is recognized that many new designs and materials are significantly superior to the 1972 standards. There is no limit to the number of attachment points so long as their primary intent is to strengthen the main components of the crash protection system. Parts of the roll bar or roll cage deemed to serve no practical purpose other than chassis stiffening may be considered in violation of the intent of these rules and can be subject to weight penalty or reclassification.

SFI Updates

Beginning in 2017, SFI Foundation, Inc. (SFI) is changing the way its labels for Driver Restraints, Window Nets, and Roll Cage Nets are dated.

SFI is implementing a New Label design which will remove the punched-out month/year date of manufacture and instead incorporate a single expiration date pre-printed on the label. This system will eliminate the need for punch-dating of labels and aims to facilitate technical inspection of dated products in the field.

New Labels will start being used after January 1, 2017. An example of the new label (right), next to the old label (left) for comparison, is shown here:



SFI Labels Prior to 2017



**SFI Labels Available
Jan. 1, 2017**

The new labels will be used for the following SFI products:

Driver Restraints: SFI Specs 16.1, 16.2, 16.5, and 16.6

Window Nets: SFI Spec 27.1

Roll Cage Nets: SFI Spec 37.1

Labels will come out in 6-month segments per the below chart. These certified items may still be used for 2 years, the service life has not changed.

Date Indicated on Label	Manufactured During This Period (mm/dd/yy)	Expiration
JUN 2019	01/01/17 – 06/30/17	Jun. 30, 2019
DEC 2019	07/01/17 – 12/31/17	Dec. 31, 2019
JUN 2020	01/01/18 – 06/30/18	Jun. 30, 2020
DEC 2020	07/01/18 – 12/31/18	Dec. 31, 2020

Be aware that product manufacturers are allowed to use the discontinued punch-date style labels (above left) until their existing supply runs out. Therefore, you may see the old style labels on Driver Restraints and Window Nets/Roll Cage Nets for a while. Restraints or Nets with the old label may also still be used until they expire, which is 2 years from the date of manufacture punched on the tag.

Please direct any questions about the new label dating system to the SFI office.