

SONOMA DRAGS & DRIFT



2021 - 2023 SONOMA DRIFT TECH REQUIREMENTS ANYTHING NOT MENTIONED IN THIS DOCUMENT IS SUBJECT TO THE INTERPRETATION OF THE DIRECTOR Rulebook Version 20.1

ELIGIBILITY

- A. Must present a valid driver's license that matches the name on the entry form to participate.
- B. Drivers and passengers must be of legal driving age of California, and if under 18 must submit a minor release form signed by their parent/legal guardian, provided by Sonoma Raceway. Minor release form must be signed with parent/legal guardian present.
- C. One passenger is allowed in the front passenger seat. No other passengers are allowed.

OCCUPANT SAFETY REQUIREMENTS

Each occupant must wear the following equipment during all on track sessions. Safety regulations may change for Winter Jam or Summer Jam and will be announced with those events.

Helmet

- 1. Only helmets certified to meet or exceed the following standards are permitted:
 - a. Snell Memorial Foundation: latest two SA rated helmets available, i.e:
 - i. 2021 - 2023: SA2015 or SA2020
 - ii. M rated helmets are for motorcycles and are not permitted.
 - b. SFI 31.1./2015 or SFI 31.1/2020

Neck Brace

- 2. All occupants must wear a head and neck restrain device. HANS style is recommended but not required.

Clothing

- 3. A minimum of short sleeve shirt, long pants, and socks are required. Cotton-based is recommended at minimum.
- 4. Shoes: Drivers must wear enclosed shoes with closed-toes.
- 5. Driving Suit: Required for driving on track on the road course at Winter Jam or Summer Jam. The driving suit must be made of fire resistant material and certified to SFI 3.2A/1 or better. Fire resistant gloves, shoes, socks and balaclava are recommended but not required.

Seat

- 6. All four corners of seats must be securely bolted to the floor. All hardware used in the mounting of seats shall be SAE Grade 5 or better with a 5/16" minimum diameter.

Restraint Systems (Diagram 1)

7. General: If the belts or harnesses are expired, damaged, frayed, or deemed unsafe at technical inspection, they must be replaced. The shoulder harness shall be mounted behind the driver and supported above a line drawn downward from the shoulder point at an angle of not greater than 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. All belt loops must be routed properly and secured tightly, in such a way that they do not slide across the harness bar, and must ensure an uninhibited path over the shoulders. Clip-on harness systems must use safety wire or cotter pins to ensure security when a safety wire hole is present. 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. 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.
8. Restraint Systems, Stock Seats: Stock seats must have stock seat belts, fastened properly. Seat belts must be retractable and securely fastened to their attachment points.
9. Restraint Systems, Aftermarket Seats: Reclinable aftermarket seats may use stock seat belts.
10. All other aftermarket seats must have a 5 point harness fastened properly and with an SFI 16.1, SFI 16.5, or FIA certification label.
11. SFI Certification: Harnesses with punch-out style SFI labels must be hole punched with the year and month of manufacture and shall expire two years after the punched month and date on the belt..
 - a. SFI 16.1 using 3" belts or SFI 16.5: Harnesses may have 2" belts. 2" shoulder straps are permitted when used with an approved, non-expired SFI 38.1 Head and Neck Restraint.
12. FIA Certification: Harness systems must be homologated with FIA specification 8853/98. FIA belts expire on December 31st of the year punched or printed on the FIA tags.
13. Use of window nets or arm restraints is encouraged. Arm restraints are required in open-top cars if top is down.

CAR SAFETY REQUIREMENTS

Exterior

14. Vehicle exterior must be free of loose objects and sharp or exposed edges.
15. Windshield must not have any cracks.
16. Doors must have a functioning external handle or latch so someone who is unfamiliar with the car (e.g. Fire/Safety) can open the door.
17. Windows should be down to allow safety personnel to access occupant(s).
18. Crash bar or factory bumpers required.
19. Open top cars must have a fixed main hoop. The top of the main hoop must be at least 2" above the occupant's helmet when tested from the top of the main hoop to the top of the front hoop.

Engine Compartment

20. Hood release and/or pins operational.
21. Engine compartment clean.
22. Engine mounts in good condition.
23. Radiator must have an overflow.
24. No fluid leaks. All fluid systems must be free of leaks and if catch tanks are needed in order to prevent fluid overflow and spillage they are then deemed mandatory for that given vehicle.
25. Appropriate fluid levels and conditions.
26. Hoses and belts in good condition.

Electrical

27. No loose wires.
28. Battery must be securely bolted down by a metal bracket, without possibility of coming loose or shifting during the point of an impact, even inside of a box.
 - a. The terminals must be completely insulated to avoid contact with any other metal parts.
 - b. Batteries may be relocated.
 - c. If battery is located inside the driver's compartment it must be in a sealed box unless it is a dry cell type. A metal box is recommended.
29. Starter terminals must be insulated.

30. If the keyed ignition has been removed, then a master switch must be in place and steering column lock removed.
 - a. It shall be mounted so that it is easily accessible from the outside.
 - b. If mounted outside the cockpit, it must be mounted in an area where it is least likely to be damaged (e.g. cowling near wipers).
 - c. The switch shall shut off the motor and cut all power at idle and 3000RPM, except to the on-board fire system, radio communication, and any other life support/medical device.
 - d. The terminals must be covered.
 - e. The switch location must be clearly marked with a master switch cut-off decal.
31. At night and in inclement weather all cars must have at least one front and one rear constant light.
 - a. Rear light must be red.

Fuel Cell

32. The use of fuel cells is allowed.
33. Fuel cell, if present, must be separated from the driver by a firewall with no holes.
34. All fuel cells must have a bladder.
35. Fuel lines and fittings must be high-pressure type and routed in such a way that they do not interfere with moving parts and be securely insulated and attached to the unibody or chassis with fuel lines running outside the cockpit.

Wheels, Steering, and Suspension

36. No significant play in steering, bearings, or suspension.
37. All bolts and nuts including lug bolts and nuts must be tight and present.

Interior

38. Vehicle interior must be free of sharp or exposed edges.
39. The interior of the vehicle must be clean and all debris, nonessential, and/or loose items must be removed.
40. Any holes in engine bay firewall must be sealed.

Mounting Hardware

41. Mounting Hardware (bolts): All hardware used in the mounting of other structural supports shall be SAE Grade 5 or better with a 5/16" minimum diameter.

2021 - 2023 TANDEM TECH RULES

In addition to all the above requirements, all competition and tandem cars must pass the technical inspection of an SFI certified tech inspector which will be good for up to two years unless the car is altered in a way that prevents it from meeting the technical criteria or sustains a substantial collision. After passing an SFI tech inspection, competition and tandem cars may be provided with a log book to present to a technical inspector along with a self tech form. This will relinquish their responsibility to go through a full tech inspection every week.

OCCUPANT SAFETY REQUIREMENTS

Seats

42. Seats that are more than 6" from the harness bar on the roll cage must be braced. If a car is constructed solely for drifting, aftermarket seats are strongly recommended.

CAR SAFETY REQUIREMENTS

Fuel

43. Only cars running fuel without hybrid or electric power are eligible to run tandem.

Fire Extinguisher

44. Must be within driver's reach.
45. 2.5lb. ABC fire extinguisher must be bolted in, with a metal mounting plate and/or bracket utilizing metal fasteners.

Towing Apparatus

46. All cars must have a minimum (1) front and (1) rear permanently installed towing apparatus (eye, strap, cable, etc.) with a minimum hole diameter of 50 mm or 2".

- a. The apparatus shall be strong enough to withstand the weight of the vehicle being pulled from non-racing surfaces such as gravel traps, approximately equal to 5000lbs.
- b. Tow apparatus must be a unique-purpose device. Using other structures, i.e; a wing, body panel, crash bar, factory tie down loops, or wheel is not allowed.

Roll Cages

The basic purpose of the roll cage is to protect the occupant if the car rolls over or contacts an obstacle or 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/aft and lateral loads resulting from the car skidding along on its rollover structure.

47. Roll cage must be in good general condition.

48. Competition and tandem cars must be equipped with at least a 6-point roll bar that includes double anti-intrusion door bars (Diagram 2). The cage design illustrated represents a cage that prevents an unhelmeted person from striking side and forward braces, as may be the case if the car is reserved for street use as well. If a car is constructed solely for drifting a full cage is recommended but not required.

49. If the OEM door metal has been altered, a NASA roll cage, as is defined in 15.6 of NASA's Club Codes and Regulations must be in place.

50. General Construction

- a. All welding must be of the highest quality with full penetration.
- b. All tubes must be welded 360-degrees around the circumference of the tube.
- c. The weld shall have no cracks.
- d. Thorough fusion shall exist between weld metal and base metal.
- e. All craters shall be filled to the cross section of the weld.
- f. Undercut shall be no more than 0.01 inch deep.
- g. The main components of the cage must be made of the same material, size, and thickness of tubing.
- h. Aluminum bronze or silicon bronze welding technique is permitted, but extreme care shall be used in preparation of parts before bronze welding and in the design of the attaching joints.

51. Roll Cage Material

- a. Roll cages must be constructed of seamless SAE 1020 or 1025, etc. mild steel tubing (DOM) at minimum.
- b. Please contact Sonoma Drift for approval if any alloy material will be used. An approved supplier MUST construct alloy steel cages.
- c. No ERW tube allowed.

52. Tubing Size

- a. For cars up to 3500lbs, roll cage tubing must be at least 1.500" x 0.095".
- b. The minus tolerance for wall thickness must not be less than 0.010" below the nominal thickness.

53. Main Hoop

- a. All roll cages must be based on a single main hoop of one (1) continuous length of tubing with smooth, continuous bends and no evidence of crimping or wall failure.
- b. The radius of bends in the roll cage hoop (measured at centerline of tubing) shall not be less than three (3) times the diameter of the tubing.
- c. The main roll hoop (behind the driver) shall extend the full width of the driver/passenger compartment and shall be as near the roof as possible with a maximum of 4 bends, totaling 180 degrees \pm 10 degrees.
- d. The roll cage main hoop must 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 with support tubes beneath the joints to distribute the loads.
- e. It is recommended that gussets be used.
- f. The main hoop shall incorporate a diagonal lateral brace that is in the same plane as the main hoop to prevent lateral distortion of the hoop.

54. Harness Bar

- a. A section of tubing equal to the roll bar shall be installed horizontally from the main hoop to the diagonal brace behind the driver's seat.
- b. This tube shall be no higher than shoulder height and continue from the diagonal to the passenger side main hoop upright.

- c. It must be no greater than 6 inches from the seat back.
- d. The bar must intersect the required diagonal bar, but need not remain in the same plane as the main hoop (e.g. may bend aft-ward to allow more or less seat room behind the driver and/or passenger seat(s); as long as it intersects the required diagonal).
- e. The harness bar need not intersect the main hoop at any specific location (vertically), however the bar shall be installed horizontally (parallel with the ground).

55. Rear Hoop Supports

- a. The main roll hoop shall have two braces extending to the rear attaching to the frame or chassis.
- b. Braces shall be attached as near as possible to the top of the main hoop not more than six (6) inches below the top and at an included angle of at least thirty (30) degrees.
- c. No bends are allowed on rear braces.

56. Door Bars

- a. Attaching the door bars as far forward as possible will result in better protection for legs and feet.
- b. If any bends are incorporated into the anti-intrusion door bars, then the door bars must also have a minimum of three vertical tube sections connecting the upper and lower bars for added strength to aid in preventing the structure from rolling over onto an occupant's legs in case of impact.

57. Additional Bars

Any number of additional reinforcing bars is permitted within the structure of the cage. Any number of tubes may attach to a single plate or to each other.

58. Mounting Plates

- a. Each mounting plate shall be at least 0.080" thick.
- b. Mounting plates must be securely welded to the structure of the vehicle.
- c. Each mounting plate shall not be greater than 100 square inches and shall be no greater than twelve (12) inches or less than two (2) inches on a side.
- d. The mounting plate may be multi-angled but must not exceed these dimensions in a flat plane.
- e. Whenever possible, mounting plates shall extend onto a vertical section of the structure (such as a plinth box or door pillar).
- f. Any number of tubes may attach to a plate so long as they are touching each other at the plate. There may be a small gap between tubes to allow welding 360 degrees around each tube. If there is no gap between the tubes, they must be welded around the base as much as possible to form a single figure-eight weld, and the tubes should be welded to each other for two (2) inches up from the base plate.

59. Exceptions and Alternatives

- a. The aforementioned rules should be used as a guideline to building a roll structure specific to Sonoma Drift participation.
- b. If your vehicle is already equipped with something equivalent or better, you do not need to redesign your roll structure to meet the specific Sonoma Drift rules.
- c. Equivalency will be determined by the Chief of Tech and/or the Director.

Roll Cage Padding

- 60. Forward braces and portions of the main hoop subject to contact by the occupant's helmet (as seated normally and restrained by seatbelt/shoulder harness) shall be padded with non-resilient material. This includes the A-pillar and halo.
- 61. Ethafoam®, Ensolite®, or other similar material with a minimum thickness of one-half (1/2) inch and conforming to SFI 45.1 is required.
- 62. It is recommended that roll cage surfaces that may come in contact with the occupant's other body parts be padded with non-resilient material. It should be Ethafoam® or Ensolite® with a minimum thickness of one-half (1/2) inch and conforming to SFI 45.1.

Roll Cage Inspection

- 63. An inspection hole at least 3/16 inch diameter, but no greater than 1/4 inch diameter, may be drilled in a non-critical area to facilitate verification of wall thickness or a non-invasive means of measurement may be used.
- 64. All welds must be accessible for inspection (360 degrees).

Egress

- 65. Exit within 10 seconds starting in as-driven condition through door.

RULE BOOK/TECH DISCLAIMER

The rules and/or tech regulations set forth herein are designed to provide for the orderly conduct of racing events and to establish minimum acceptable requirements for such events. These rules shall govern the condition of all events, and by participating in these events, all participants are deemed to have complied with these rules.

NO EXPRESSED OR IMPLIED WARRANTY OF SAFETY SHALL RESULT FROM PUBLICATIONS OF OR COMPLIANCE WITH THESE RULES AND/OR REGULATIONS

They are intended as a guide for the conduct of the sport and are in no way a guarantee against injury or death to a participant, spectator, tech official, or official. The race director shall be empowered to permit reasonable and appropriate deviation from any of the specifications herein or impose any further restrictions that in his opinion do not alter the minimum acceptable requirements.

NO EXPRESSED OR IMPLIED WARRANTY OF SAFETY SHALL RESULT FROM SUCH ALTERATION OF SPECIFICATIONS

Any interpretation or deviation of these rules is left to the discretion of the officials. Their decision is final.

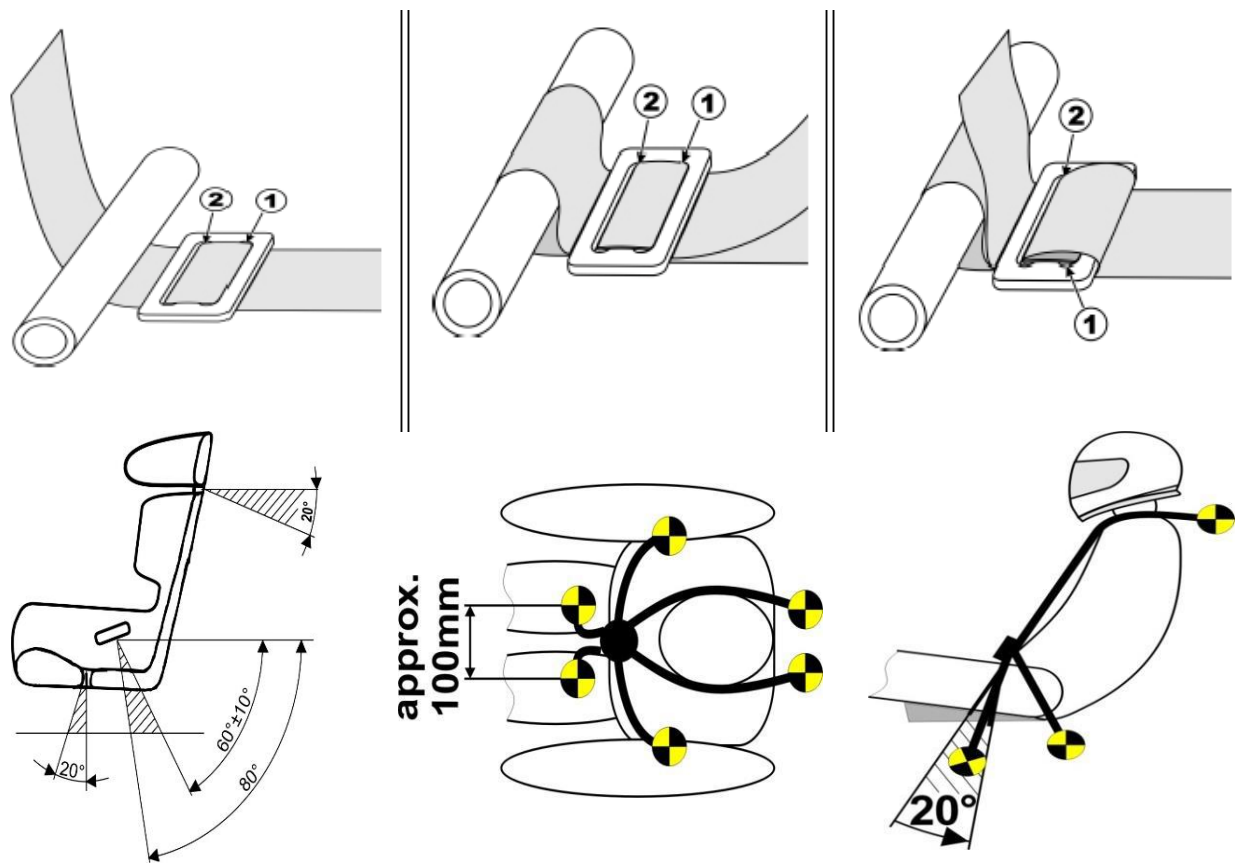


Figure 2

