



# 2019 Drifting Rules and Regulations

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[nick@epautomotive.org](mailto:nick@epautomotive.org)  
<https://epautomotive.org/>

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# Versioning

This rulebook is versioned according to the year of its release and subsequent released changes. The version number is indicated by `YEAR.MajorVersion.MinorVersion`.

**YEAR:** This is the year that the version was created. Generally changes every year. It is recommended that the rulebook is reviewed by teams with each yearly release. Requirements may change year-to-year, but generally only change with major and minor releases.

**MajorVersion:** Major release versions indicate that major changes have been made to this rulebook. A “major change” is one that may validate or invalidate previously denied or accepted vehicles for technical inspection. It is recommended that the rulebook is reviewed by teams with each major version release.

**MinorVersion:** Minor release versions indicate that a minor change has been made to this rulebook. A “minor change” is defined as one that changes specific wording on requirements, slightly alters certain requirements, or otherwise makes updates to this rulebook that have a lower chance of invalidating previously accepted vehicles for technical inspection. It is still recommended that teams review the rulebook with each minor version release.

# Basic Driver Rules

1. Closed face helmet required:
  - a. SA2010 or SA2015 minimum rating required
  - b. Helmet must be less than 5 (five) years old based on Date of Manufacture
  - c. Helmet must be in good condition and show no signs of damage
  - d. Chin strap must be present and always fastened when wearing
  - e. **Helmets not allowed:**
    - i. Open face helmets (**unless SA2015+**)
    - ii. M helmets
    - iii. DOT-only helmets
2. Long pants, closed toe shoes, and sleeved shirts (no cut-offs). Long sleeve shirts are not required.
3. Driver meetings are MANDATORY. If you do not attend the driver's meeting, you will not be allowed on track
4. When in grid or on track, driver should be alert, ready and focused
5. Common sense is required. No whining.

# On-Track and Pit Rules

1. Any passenger must meet the same helmet and attire requirements as a driver (see previous page)
2. Driver must pay very close attention to all flaggers and course workers. If any staff instructions are ignored, the driver will be - at minimum - removed from the track for the current session. If the offense is repeated or causes an extreme unsafe condition, the driver will be ejected from the event entirely
3. 3 (three) cars maximum on-track at one time for tandems, unless otherwise approved by staff
4. Be courteous on-track: 2 (two) spin outs or other major mistakes that slow down the event and we ask that you exit the track for that run. Try again next time around
5. No intentional burnouts on-track; if you spin out or come to a stop simply continue with the run. Burnouts are really only fun for the person doing them
- 6. Be courteous on-track!**
7. Use common sense as if you were driving on the road: watch for unsafe situations, drive defensively and always be alert and aware of your surroundings and other drivers

# Vehicle Technical Inspection

1. Brake lights must work
2. Fire extinguishers with metal mounting brackets required for all vehicles on-track. No restriction on size.
3. Seatbelts for driver and passenger should be OEM or harnesses attached to a rollbar ONLY; no bolt-in harnesses
4. Seats must be securely fastened to the floor
5. Loose objects must be removed from the vehicle; this includes anything that might come loose while driving or fly about
6. **Be safe. If you aren't comfortable driving the car, then other people probably won't be comfortable driving next to you.**
7. Battery must be tied down with OEM tie down; metal strap if aftermarket or replaced
8. Vehicle must have doors, OR adhere to the following specifications:
  - a. Any vehicle without doors must:
    - i. Be equipped with an FIA/SFI approved racing seat
    - ii. Be equipped with FIA/SFI approved arm restraints for driver
    - iii. Driver must wear FIA/SFI approved fire suit
    - iv. **Vehicle must be equipped with a full roll cage, adhering to Formula Drift roll cage specification, found in this rulebook**
9. Convertibles must have roll bars at minimum to drive; must have full roll cage to tandem
10. **Cageless tandems allowed only for the following chassis:**
  - a. 2003+ Nissan/Infiniti Chassis
  - b. 2003+ BMW Chassis
  - c. 2005+ Ford Mustang Chassis
  - d. 2012+ (all) FRS/BRZ/GT-86
  - e. 2006+ Genesis Coupe

# Formula Drift Roll Cage Specification

*This cage specification is not required for all vehicle cages. It is only required when stated previously in this rulebook.*

*Specification taken from FD US 2018 Rulebook Version 1.1.*

## **General**

- A. All roll cage structures must be designed in an attempt to protect the occupants from any angle, 360 degrees.
- B. The roll cage shall attach to the chassis/unibody in eight points.
- C. Gussets of such as dimple die plates are allowed along A-pillar, B-pillar, and roof structure. Gussets shall be made from steel plate no thicker than .125-inch.
- D. No gussets or attachment of any form may pass from the door bars to the chassis, unibody, or rocker panel.
- E. Plating of chassis is prohibited.
- F. Bolt in roll cages are not allowed.
- G. No portion of the cage may permeate the firewall and shall be fully contained within the driver's compartment.
- H. No additional bracing may be used between the strut tower and the firewall.
- I. Any number of additional reinforcing bars, gussets or supports is permitted within the confines of the roll cage.
- J. Modifications to the chassis or notching for roll cage clearance must have prior written approval from Staff.

## **Padding**

- A. Padding must meet SFI spec 45.1 or FIA 8857-2001.
- B. Padding is required anywhere driver helmet may come in contact with the roll cage and along the base of the driver's side A-pillar bar and box if applicable.

## **Welding**

*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. 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. Welding shall conform to American Welding Society D1.1:2002,*

*Structural Welding Code, Steel Chapter 10, Tubular Structures. Whenever D1.1 refers to “the Engineer” this shall be interpreted to be the owner of the vehicle.*

- A. All welds shall be visually inspected and shall be acceptable if the following conditions are satisfied:
  - a. Welds shall be continuous around the entire tubular structure.
  - b. The weld shall have no cracks.
  - c. Grinding down of welds is prohibited.
  - 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 .01-inch deep.
  - g. 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.

### **Roll Cage Material**

- A. Roll Cage Material must be Seamless SAE 1020 or 1025 mild steel tubing, DOM, and or chromoly.
- B. ERW tubing is not permitted.
- C. All roll cage tubing in the requirements listed below must be a minimum of 1.5 x .095-inch for all materials.
- D. The minus tolerance for wall thickness should not be less than .010-inch below the nominal thickness.
- E. Vehicles weighing over 3500 lbs. with driver must petition with the Staff for approval of the roll cage prior to entering any event.

### **Roll Cage Mounting Plate**

- A. Each mounting plate or box shall be at least .08-inch thick steel
- B. Each mounting plate or box must be fully welded to the structure of the vehicle
- C. Each mounting plate or box shall not be greater than 100 square inches and shall be no greater than 12-inches or less than 2-inches on a side. The mounting plate may be multi-angled but must not exceed these dimensions in a flat plane
- D. Whenever possible, mounting plates shall extend onto a vertical section of the structure such as a rocker box or door pillar
- E. Any number of tubes may attach to a single plate or to each other.

### **Main Hoop**

- A. 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.



- B. The roll cage main hoop should start from the floor of the vehicle and be attached to the chassis/unibody via Mounting Plate specifications.
- C. Diagonal lateral brace is a piece of tubing equal to the roll bar diameter, installed across the main hoop to prevent lateral distortion. This brace must attach to the driver side upper corner of the main hoop, not more than 6-inches from the center of the radius, and to the opposing leg, not more than 6-inches from the base plate.
- D. A horizontal brace is a piece of tubing equal to the roll bar diameter, installed behind the driver's seat for the purpose of mounting seat belts. This tube shall be no higher than shoulder height and continue the full width of the main hoop, attached to both legs.
- E. The diagonal brace or the horizontal brace must be one continuous piece of tube, with the other attaching to it.

### **Front/Side Hoops**

*The front hoops, side hoops, or down tubes shall begin at the floor. Several configurations are allowed:*

- A. Side Hoop Configuration: Side Hoops connect directly from the floor of the driver's compartment and continue, in one piece, to connect to the Main Hoop. If Side Hoops are used, they are to be connected together by a single horizontal tube across the top of the windshield with a maximum of 4 bends totaling 90 degrees  $\pm$  10 degrees.
- B. Front Hoop Configuration: A front hoop connected to the floor on both sides of the driver compartment and following the line of the front pillars in one continuous piece may be used. A front hoop must be connected at the top by horizontal bars running back to the main hoop on each side, above the doors with a maximum of 4 bends, totaling 180 degrees  $\pm$  10 degrees.
- C. HALO Configuration: Top "halo" hoop following the roof line in one continuous piece from each side of the main hoop along the top of the doors and windshield. A HALO must be connected to the floor with forward "down tubes" following the line of the front pillars with a maximum of 4 bends, totaling 180 degrees  $\pm$  10 degrees and a maximum of 2 bends allowed on the down tubes.

*The front, side or down hoops may extend through the dash pad, including the forward part of the door panel if it is an extension of the dash panel. One (1) "Knee" bar is recommended in a horizontal plane between forward cage braces in the dash area for all configurations.*

### **Rear Hoop Supports**

- A. The main roll hoop shall have two braces extending to the rear attaching to the chassis/unibody.
- 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.

- D. On vehicles where the rear window/bulkhead prohibits the installation of rear braces, the main hoop shall be attached to the body by plates welded to the cage and bolted to the stock shoulder harness mounting points.

### Side Protection

- A. All vehicles shall have a minimum of two door bars across each front door opening.
- B. The door bars may run parallel, or in the shape of an "X".
- C. If the two door bars do not intersect as they do when forming an "X", then a minimum of two vertical tube sections shall connect the upper and lower door bars.
- D. Teams may also choose to install "NASCAR-STYLE" bars and extend into the outer door skin. In this configuration, the outer bars must also have a minimum of three vertical tube sections connecting the upper and lower bars.
- E. Side protection must not pass through the B-pillar.
- F. No gussets or attachment of any form may pass from the door bars to the chassis, unibody, or rocker panel.
- G. The inner door panel and door internals may be removed.

### Anti-Intrusion Bars

- A. The anti-intrusion bars or wheel intrusion bars are intended for additional foot protection.
- B. All vehicles shall have anti-intrusion bars or wheel intrusion bars with one tube extending forward from each front down tube and one tube from the base plate forward to the firewall but not penetrating any panel.

