

SCCA Solo 1 Certification Information

Following is the text of the SCCA Roll Bar Specifications for Solo 1 (Appendix K), and compliance issues for the Boss Frog Double Hoop rollbars are noted in the right margin.

SCCA Specifications for Solo 1 (Appendix K)

Boss Frog Roll Bar, Double Hoop

I. Basic Design Considerations

- A. The basic purpose of the roll bar is to protect the driver if the car turns over or is involved in a serious accident. This purpose should not be forgotten. Comply
- B. The top of the roll bar must be a minimum of two inches above the drivers helmet when the driver is sitting in a normal driving position, and shall not be more than six inches behind the driver. Comply
- C. The roll bar must be designed to withstand compression forces resulting from the weight of the car coming down on the roll structure, and to take the fore and aft loads resulting from the car skidding along the ground on the roll structure. Comply, see additional testing.
- D. The two vertical members forming the sides of the hoop shall not be less than 15 inches apart, inside dimension. It is recommended that the roll bar extend the full width of the cockpit to provide maximum bearing area. Comply, while the roll bar is double hoop instead of single, it does extend the full width of the cockpit as recommended.
- E. Head restraint and padding... This is the responsibility of the driver.
- F. No portion of the safety roll bar shall have an aerodynamic effect by creating vertical thrust. Comply

II. Material

- A. The roll bar hoop and braces must be seamless, ERW or DOM mild steel tubing, or chrome molybdenum alloy steel such as SAE 4125 or SAE 4130. It is recommended that mild steel tubing be used as a chromium alloy presents difficulties in welding and must be normalized to relieve stress. Proof of the use of alloy steel will be the responsibility of the entrant. Comply, all structural tubing is seamless DOM mild steel.
- B. For purposes of determining tubing sizes, the vehicle race weight is without driver. The size of the tubing shall be determined as follows: 2001 – 3500 lbs, 1.750 x .120 Mild Steel. An inspection hole of at least 3/16" diameter must be drilled in a non-critical area of the roll bar main Comply, all structural tubing is 1.750 x .120 Mild Steel. All bolts are a minimum of 3/8 inch grade 8. The inspection hole is the responsibility of the driver.

hoop to facilitate verification of wall thickness. Where bolts and nuts are used, the bolts shall be at least 3/8 inch diameter SAE grade 5 or equivalent aircraft quality.

III. Fabrication

A. One continuous length of tubing must be used for the hoop member with smooth continuous bends and no evidence of crimping or wall failure. It is recommended that the radius of the roll bar hoop be such that the minimum outside width measured at a point four inches below the uppermost point is twelve inches.

Comply, radius at four inches from top is fourteen inches

B. All welding must be of the highest possible quality with full penetration. Arc welding, particularly heliarc, should be used wherever possible. The welds should be inspected by magnaflux or dye penetrant after fabrication. Alloy steel should be normalized after welding.

Comply, all welding is done using MIG or TIG welding, and dye penetrant is used for weld inspection.

IV. Bracing

A. Roll bar hoops must have two fore/aft braces with tubing of dimensions at least equal to that required for the main hoop itself. Diagonal lateral bracing of equal dimension tubing must be installed to prevent lateral distortion of the hoop. (In most cases, a lateral brace from the bottom corner of the hoop on the side to the top corner of the hoop on the other side is sufficient). The following alternatives are permitted. Although installing the diagonal lateral brace in the main hoop is the strongest (and hence the most preferable) alternative, there may be instances where such an installation is not practical. In such situations, the installation of the diagonal brace as shown in the diagram at the end of appendix L will be acceptable.

Comply, diagonal bracing is accomplished by the center leg tubes and saddle assembly, which attach the top of each hoop diagonally to the floor on the opposite side of the driveline tunnel. The rules specifically allow such alternative bracing.

B. The bracing must be attached as near as possible to the top of the hoop, but not more than six inches below the top of the hoop, at an included angle of at least thirty degrees. If a single brace is used, it must be attached at the top of the main hoop.

Comply, the bracing is at a thirty degree angle from the hoop, attached at the top.

C. If the fore/aft bracing must be removable...

Comply, non removable.

V. Mounting Plates

A. Roll bars and braces must be attached to the frame of

Comply, all plates are 3/16".

the car wherever possible. Mounting plates, regardless of whether welded or bolted to the frame, must be at least 3/16" thick.