



Targa Newfoundland – Rollover Bars 2024-27

General

1. Roll Bars

- 1.1 Roll bars are mandatory on all Targa 1 vehicles.
- 1.2 Roll cages are optional.
- 1.3 All roll bar installations are subject to the approval of the event scrutineer.

2. Basic design considerations for all roll bars.

- 2.1 The basic purpose of the roll bar is to protect the crew if the car rolls over.
- 2.2 The top of the roll bar shall be a minimum of 3 inches above the top of the driver's helmet when the driver is sitting in the normal driving position.
- 2.3 The top of the roll bar shall provide a minimum of 6 inches clearance between the back of the driver's helmet and the bar.
- 2.4 The roll bar must be designed to withstand compression forces resulting from the car coming down on the roll structure and to take fore and aft loads resulting from the car skidding along the ground on the roll structure.
- 2.5 The two vertical sides of the main hoop may be curved but shall be less than 3 inches from the sides of the car.
- 2.6 A headrest with resilient padding to prevent whiplash must be installed behind both crew positions.
- 2.7 The head restraint should be capable of withstanding a force of 200 pounds in an aft direction.
- 2.8 Any portion of the roll bar or bracing that might be contacted by the driver's helmet must be covered with energy-absorbing high-density material to a minimum thickness of one inch.

3. Materials

- 3.1 The roll bar hoop and all braces must be of seamless or ERW or DOM mild steel tubing or chrome molybdenum alloy steel such as SAE 4125 or SAE 4130
- 3.2 Proof of the use of alloy steel will be the responsibility of the entrant.

3.3 The size of tubing to be used shall be determined from the following table (all dimensions are in inches).

3.4 Vehicle rollover hoop must meet the following vehicle weight specifications:

Vehicle Weight	Under1500 lbs	1500 to 2000 lbs	2000 to 4000 lbs	Over 4000 lbs
Mild Steel	1.500 x 0.120	1.750 x .0120	2.000 x 0.120	2.500 x 0.120
Alloy Steel	1.375 x 0.090	1.625 x 0.095	1.750 x 0.095	2.150 x 0.095
DoKo R8 Steel	1.250 x 0.090	1.375 x 0.080	1.650 x 0.080	2.000 x 0.080

3.5 An inspection hole of at least 3/16 inch diameter must be drilled in non-critical areas each piece of the roll bar hoop and supports to verify wall thickness.

3.5 Where bolts and nuts are used, the bolts shall be a min of 3/8 inch diameter SAE Grade 8.

4. Fabrication

4.1 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.

4.2 The roll bar 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 in order to distribute the loads.

4.3 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 penetrated after fabrication.

4.4 Alloy steels must be normalized after welding.

5. Bracing

5.1 Full cockpit width (two seats) roll bar hoops.

5.2 Fore/aft braces with the minimum dimension of at least that required for the main hoop itself must be installed.

5.3 The fore/aft bracing must be attached as near as practical to the top of the hoop, and at an angle of at least 30 degrees from vertical. If the fore/aft brace must be removable, the connection between the roll bar hoop and the brace rod must be of a double lug type fabricated from material at least 3/16 inches thick and welded through a doubler or gusset arrangement to avoid distortion or excessive strains caused by welding.

5.4 Diagonal lateral bracing of equal dimensioned tubing must be installed. The lateral brace must extend from the bottom corner of the hoop on one side to the top corner of the hoop on the opposite side.

6. Mounting Plates

6.1 In cars with frame type construction, the roll bar and braces must be attached to the frame of the car wherever possible.

6.2 Mounting plates attached to the frame, regardless of whether welded or bolted, must be at least 3/16 inches thick.

6.3 In the case of cars with unitized or frameless construction, or cars with frames where frame mounting of the roll bar and braces is impractical, mounting plates must be used to secure the roll bar structure to the floor of the car.

6.4 The minimum mounting plate area shall be 4.5 inches square. The important consideration is that the loads be distributed over the largest area as possible.

6.5 Mounting plates bolted to the structure shall not be less than 3/16 inches thick with a backup plate of equal size and thickness on the opposite side of the panel with the plates through bolted together.

6.6 Mounting plates welded to the structure shall not be less than .080 inches thick. Wherever possible, the mounting plate should extend onto a vertical section of the structure such as a door pillar.

7. Removable Roll Bars

7.1 Removable roll bars and braces must be very carefully designed and constructed to be at least as strong as a permanent installation.

7.2 If one tube fits inside another tube to facilitate removal, the removable portion must fit tightly and bottom on the permanent mounting and at least two bolts must be used to secure such a joint.

7.3 The telescope section must be at least eight inches in length.