APPENDIX - E ROLL BAR / ROLL CAGE SPECIFICATIONS

ALL vehicles required by the GCRs to be equipped with a roll bar or cage must meet these specifications. Roll bar must be securely mounted to the floor and/or longitudinal members of the uni-body with the top of the main hoop at least 2" above the driver's helmet when the driver is seated in the normal driving position. The mounting area of "bolt-in" roll bars must be backed by a plate of a size equal to that of the upper mounting plate with a minimum thickness of 3/16." Bolts must be grade 5 or better. The roll bar must be mounted directly to the metal of the chassis and any padding, carpet, upholstery, etc. must be removed to satisfy this requirement. The roll bar must be full cockpit width, except as originally supplied by the factory for open race cars, and have two fore/aft braces of tubing size equal to the main hoop.

The braces must be mounted as near to the top of the main hoop as possible and at an included angle of at least 30 degrees. Additionally, the roll bar assembly must contain a transverse (left to right side) brace. Any portion of the roll bar which may come in contact with the driver's helmet must be covered with high density foam.

Minimum Roll Bar Tubing Sizes:

	Under 1500 lbs.	Over 1500 lbs.
Mild Steel	1.5"x.120"	1.75"x.120"
Alloy Steel	1.375" x .090"	1.625" x .095"

Through bulkhead bracing is defined as any non-production continuation of a structure through an existing bulkhead or any structure that causes energy to be transferred through a bulkhead.

Roll Cage Specifications:

For cars with roll cages, the main and front roll hoops must have, as a minimum, the following specifications:

	<u>Under 2500 lbs</u> .	<u>Over 2500 lbs</u> .
Mild Steel	1.50" x .095"	1.75" x .095 or 1.50" x .120
Alloy Steel	1.375" x .095"	1.50" x .095"

•Approved Boxster Roll Cage Specifications (Mandatory for Cup Racing):

Safety Devices Part # SD-P986: Main Hoop = 1.75° Diameter x .128" wall thickness with other tubing = 1.5° Diameter x .128 wall". DOM Tubing ONLY.

•Approved Boxster PDS and Time Trial Specifications:

Brey-Krause Extension or Equivalent

•Following specifications for Boxster and all open cars:

- 1) A minimum of two inches clearance under the factory roll bar, Brey Krause extension or cage main hoop fully strapped in, helmet on and in a pushing up position.
- 2) Arm Restraints Mandatory
- 3) Brey-Krause Extension allowed only in PDS and Time Trials. Cup Racing requires a full roll cage.
- 4) When utilizing the Factory Roll Bar or Brey Krause Extension the top must be up.
- 5) All other safety devices required per class, per GCRs

•Approved Bolt in Roll Bar for 964, 993, Coupe and Convertible Time Trial and PDS run groups:

DAS-sport Bar with the following specifications: DOM Tubing 1.75" diameter x .120" Wall.

Drivers side impact door bars are mandatory through Race Class R4 (does not include stock door bars located inside doors). Door Panels may be modified in "V" classes to allow for side impact door bars (i.e., removal of door pockets, use of RS style door panels). Door Bars may be of the bolt in kind. Passenger sidebars are highly recommended.