# **SOLO® RULES**

# 1. SOLO® EVENTS

#### 1.1 Mandatory Provisions

Sections 1.0 (except 1.5), 2.0 (except 2.3, 2.7, and 2.8), 3.1, 3.3 (except 3.3.3.A), 3.6, 4.1, 4.2, 4.3, 4.10, 4.12, 4.13, 5.3, 5.4, 5.5, 5.6, 5.7, and 5.11 are mandatory in all SCCA® Solo® Events that an SCCA® Region solely or jointly organizes, conducts, sanctions, or otherwise cooperates as a Region in organizing. The titles of mandatory sections are underlined herein. At events where kart classes (KM, JA, JB, JC) are offered, Sections 2.7 and 2.8 are mandatory. Vehicle classifications (e.g., Section 3.2) are not mandatory. Regions should use classing structures which are best for the development of their programs. However, Regions may not allow faster karts per age group than those already described in Section 19. National vehicle classifications are located in Appendix A of these rules. Suggested optional classes and rules are located in Appendixes A, B, G, and H. The entire SCCA® Solo® Rules are mandatory for SCCA® National Solo® Events. Additional rules governing the SCCA® ProSolo® National Series are in Section 20.

#### 1.2 GENERAL DEFINITIONS

#### 1.2.1 Solo® Event

A Solo® Event is an automobile competition in which one car at a time negotiates a prescribed course, with finishing position based on the time required to complete the course plus any penalties incurred. Where course conditions permit, more than one car may be on course at a time if they are separated by adequate time and distance. A Solo® Event is a non-speed driving skill contest such as, but not limited to, autocrosses and slaloms. These events are run on short courses that emphasize car handling and agility rather than speed or power. Competition licenses are not required and hazards to spectators, participants, and property do not exceed those encountered in normal, legal highway driving. All Solo® Events must be SCCA® sanctioned.

# 1.2.2 Autocross

An autocross is an event generally held on a paved, flat surface, wherein the course typically consists of straight sections and connecting turns or corners, generally resembling a miniaturized road course. The course layout should be such as to emphasize car handling, driver skill, and maneuverability rather than performance. The course is generally well enough defined so that memory is not required to remain on course.

# **1.2.3 Slalom**

Slalom typically refers to an event similar to an autocross, though the term may also refer to one particular serpentine portion of an autocross layout.

# 1.2.4 Entrant

An entrant is a person who has completed the necessary requirements to enter the event.

# 1.2.5 Competitor

A competitor is a driver who has started at least one run at an event.

# 1.2.6 SD

SD is the acronym for the Solo® Department at the SCCA® National office.

#### 1.2.7 National Solo® Event

- A. Solo® National Championship: The event at which the Solo® National Champion for each class is determined. Managed by the SCCA® Solo® Department and administered by SCCA® member officials.
- B. Solo® National Tour: A collection of National-level Solo® events run at various locations across the country as preparatory events for the National Championship. Primarily planned and administered as a partnership between the local SCCA® Region and the SCCA® Solo® Department.
- C. ProSolo® National Championship: Solo® National level events run at various locations across the country using a mirror image course format that incorporates a drag race type start, including the use of "Christmas tree" starting lights. Organized and managed by the SCCA® Solo® Department with the assistance of a host Region or club.

# 1.2.8 Inter-Regional Solo® Event

An Inter-Regional Solo® Event is primarily planned and administered using the broad policy guidelines of the SEB with assistance from the Solo® Development Coordinator (SDC) and the SCCA® Solo® Department.

## 1.2.9 GCR

GCR is the acronym for the SCCA® Club Racing General Competition Rules, including the associated specification books.

# 1.3 EVENT OPERATING RULES

#### 1.3.1 Insurance Requirements (Refer to Section 4.13)

## 1.3.2 Other Operating Requirements

- A. All persons in an event car must have an SCCA® membership, either full or weekend.
- B. All competitors, except participants in Kart classes, must have a valid driver's license.
- C. Competitors are required to wear seat belts, except Kart drivers, and helmets when driving in competition. Roll bars are recommended.
- D. A passenger is allowed provided he/she:
  - 1. is no younger than twelve (12) years old or is at least 57" tall;
  - 2. is in a vehicle which has passed safety (tech) inspection (Section 3.3.3);
  - 3. is wearing a properly fitted seat belt and a properly fitted helmet;
  - 4. has completed and signed the required participant waiver(s), including parents/guardians as appropriate (Section 4.13).

The only passengers who may be allowed during competitions runs in National Solo® events are non-competitors whose role is to fulfill the statemandated requirements for a driver who has a restricted driver's license requiring a passenger.

- E. All cars shall be subject to a strict safety inspection based on the Solo® Rules.
- F. Basic rules and standards for conduct of events must be drawn up before an event is run and be available to all competitors.
- G. Penalties for course deviations or course marker displacement shall be posted and available to all competitors.
- H. Car classifications to be used and distribution of awards shall be established prior to the event and available to all competitors.

- I. An event chief official must be appointed to supervise the running of the event. His duties should generally be those of the Operating Steward (Section 5.2) at an SCCA® National Solo® event.
- J. All participants, including competitors, workers, crew, and guests, must sign the SCCA® waiver form (Section 4.13). Credentials must be issued to and displayed by those who have signed waivers. Any competitor found to have driven the course in any vehicle before signing the waiver will be disqualified from the event with no refund of entry fee and removed from the premises.
- K. Use of Alcohol or Narcotics.
  - No driver may consume alcohol until he/she has completed all his/her runs and completed his/her work assignment for the day. No official may consume alcohol until his/her duties have been concluded for the day. Alcohol may not be consumed in the grid until after all the day's competition activities are concluded. Violators may be penalized as provided in Section 9.
    - Nothing in this Section shall override site-specific alcohol restrictions.
  - 2. The use at an event by any participant of any federal Schedule 1 controlled substance (including marijuana or other drugs that affect the ability of the participant to safely participate in the event or may otherwise adversely affect the safety or integrity of the event is specifically prohibited. CERTAIN PRESCRIPTION AND NON-PRESCRIPTION MEDICINES MAY ALSO IMPAIR PERFORMANCE SO COMPETENT MEDICAL AUTHORITY SHOULD BE CONSULTED PRIOR TO USING SUCH MEDICINES AND PARTICIPATING IN THE EVENT. Any participant who violates this prohibition:
    - a. Shall not seek to participate in the event.
    - b. May be excluded from the event by the Event Chairman.
    - May be removed from the grounds by the Event Chairman or Chief Steward.
    - d. May be penalized as provided in Section 9.
    - As a condition of continued participation, the participant may be required to submit to such testing procedures as may be established by SCCA® in its sole discretion. Failure or refusal to submit to such testing shall be deemed a violation of the above prohibitions. Hoever, SCCA® assumes no obligation or duty to establish such testing procedures and/or to test participants on a random basis or in a specific case.
- L. Unsportsmanlike Conduct: Any driver who drives unsafely at/near the event location or displays unsportsmanlike conduct shall be disqualified.
- M.Pressurized gas and air bottles with a pressure in excess of 200 psi (1380 kPa) must have a protective structure around the gauge and valve assembly. Doctor-prescribed medical oxygen bottles/tanks are exempt from this requirement.
- N. It is strongly recommended for emergency purposes, a public telephone or a cellular telephone be available at the event site or at a known nearby location.
- O. Children under twelve (12) years of age and pets shall be prohibited in the staging, grid, start, finish, and course areas. Drivers from five (5) to twelve (12) years of age who are participating in an approved Junior Driver program under the requirements of Section 19.2 are exempt from this prohibition during their run group. Children who are riding as passengers and

meet the requirements of 1.3.2.D are also exempt during the run group in which they are riding. Otherwise, they also are prohibited from these areas. Furthermore, staging, grid, start, finish, and course workers should be at least sixteen (16) years of age. Drivers from eight (8) to sixteen (16) years of age should be assigned to other worker duties as outlined in Appendix H.II.B.4.

- P. Smoking (including e-cig, PV, or ENDS use) is not permitted in grid or staging areas.
- Q. Cars may not be off the ground, in gear, while running for tire shaving, tire cleaning, or other reasons. Exception: Vehicles which have snowmobile-derived drivetrains, such as Formula 500/440, may be started with the rear wheels off the ground. If a car with a snowmobile-derived train is started with the rear wheels on the ground, a driver must be on board. Note: Karts may be serviced or have the engine running while on a kart stand without a driver on board.
- R. In any areas of the event site designated for refueling of vehicles, there will be at least one (1) 10 lb. minimum Class B fire extinguisher to be available in the event of a fire during refueling.
- S. Course workers must be standing at all times when any competition cars are on-course during the event.
- T. Cell phones and video or still cameras are not permitted at course worker positions or other locations within the course area. Exceptions may be granted for media relations purposes by the Solo® Safety Steward (SSS). Permission for a photographer may be given only if the location is acceptable to the SSS and if the photographer is accompanied by a spotter (at least 16 years of age) to warn of approaching vehicles.
- U. Competitors are responsible for using proper support (e.g., jack stands) to safely support a raised vehicle if any person is underneath that vehicle.
- V. The use of unmanned aircraft systems (UAS, drones, etc.) is not permitted at any event, unless approved by event officials <u>and</u> the owner/operator has a valid reason for its use and has provided a copy of the applicable FAA certification and proof of insurance coverage. The coverage must specifically name SCCA® and the applicable list of additional insureds, must specifically state that it covers the use of the UAS/drones, and must provide at a minimum \$10M of primary coverage.

# 1.4 SANCTION PROCEDURES

# 1.4.1 Regional

Formal SCCA® sanction is required for all Regional Solo® events. Sanction requirements and all documents will be issued by the SCCA® Solo® Department.

# 1.4.2 National Solo® Event

Sanction will be issued by the SCCA® Solo® Department and the event must be listed in the official SCCA® calendar as published in the official SCCA® publication and/or on the SCCA® web site (www.scca.com).

# 1.4.3 National Championship

- A. Formal SCCA® sanction is required for the Solo® National Championship. A sanction number and document will be issued only when all requirements listed below have been met and the application approved.
- B. The event must be listed on the official SCCA® calendar as published in the official SCCA® publication and/or on the official SCCA® website. It

- shall include in the name of the event the following as a minimum: "SCCA® Solo® National Championship."
- C. The course and supplementary regulations must be inspected and approved by the Solo® Events Board.

#### 1.5 SUPPLEMENTARY REGULATIONS

Supplementary regulations will be consistent with the SCCA® Solo® Rules and define the ground rules of competition for a specific event. They are recommended, but not required, for Regional events. They shall contain the following information, as applicable:

- A. The name, location, date(s), nature, and classification of the proposed event.
- B. An announcement, conspicuously placed, reading, "Held under the SCCA® Solo® Rules."
- C. A complete description of the proposed event.
- D. Schedules and locations of all activities, inspections, meetings, and competitions. If a separate event program is prepared, these items may be included there, rather than in the supplementary regulations.
- E. The name and address of the person to whom the entry is to be sent, the closing date for the receipt of entries, when entries will be accepted, and amount of entry fee.
- F. The manner of determining results.
- G. Hours during the day(s) when official scales will be available for competitors to check their vehicle weights.
- H. All information necessary for the proper conduct of the event.

No changes shall be made to the Supplementary Regulations, except for the schedule, after registration opens or unless the SEB (at the SCCA® Solo® National Championship Event) or the Solo® Event Operations Manager (at National Tour events) so decides for reasons of safety or forces beyond their control.

# 2. COURSE

Solo® courses should be open enough to allow good competition between larger and smaller cars, and should not emphasize high speed, power-to-weight ratio, extreme maneuverability, memory, or visual acuity. Regional, National Tour, and National Championship events shall be conducted on a paved surface.

# 2.1 COMMON SENSE AND SOLO® COURSES

Although Solo® events are non-speed events under the Solo® Rules of the SCCA®, speed alone is not the operative factor in determining what is and is not a proper Solo® event. Hazard is the operative word; hazards must not exceed those encountered in legal highway travel.

Generally, maximum speeds in the mid-50s to mid-60s (mph) are contemplated for Street and Street Touring® category vehicles, and WITH LIMITED EXCEPTIONS AS DESCRIBED IN SECTION 2.2, MUST BE OBSERVED, since these are speeds with which the average driver is familiar from everyday road driving. But it is quite possible to set up a course on which speeds do not exceed 45 mph, but which is more hazardous than another course on which 65 mph is attainable.

The same sort of reasoning must be applied to cornering speeds. If, for example, there are two identical 30 mph turns, one bordered by a 50 ft. drop off

or a solid row of trees and the other by 50 ft. of flat, obstacle-free asphalt, the hazards involved are much different. The former is clearly not permissible in an SCCA® Solo® event and the latter clearly is.

Each Event Chairman is cautioned to remember that entrants and workers must be SCCA® members in Solo® events or they are NOT covered by catastrophic insurance. Furthermore, by definition a Solo® event is open to a total novice in any car that can pass safety (tech) inspection and courses must take this into consideration.

IT WOULD BE POSSIBLE TO SET EXTREMELY STRICT AND RIGID LIMITS ON SOLO® EVENTS REGARDING SPEED AND/OR COURSE DIMENSIONS. HOWEVER, IT IS NOT THE INTENT OF THESE RULES TO OUTLAW EVENT SITES WHICH CANNOT ACCOMMODATE A COURSE OF CERTAIN STATED DIMENSIONS OR CREATE THE IMPRESSION THAT, SO LONG AS SOME "MAGIC" SPEED LIMIT IS NOT EXCEEDED, THESE RULES ARE ADHERED TO.

Basically, Solo® event speeds are limited to what is "reasonable and prudent for the conditions encountered," SUBJECT TO THE CONSTRAINT THAT TOP SPEEDS BE WITHIN AN ALLOWABLE RANGE AS DESCRIBED IN SECTION 2.2. Laying out a course to comply with the safety requirements of these rules calls for the exercise of prudent good judgment and common sense. Failure to do so may subject an SCCA® Region to severe sanctions.

# 2.2 COURSE SAFETY AND LAYOUT RULES

Courses must comply with Section 1 of these Rules which is mandatory of all SCCA® Regions. The following set of course safety and layout rules is also required for all Solo® events. WHEN THIS SECTION IS FOLLOWED, COMPLIANCE WITH SECTION 2.1 IS AUTOMATIC.

When laying out a course, the size of the vehicles competing should be taken in consideration and the dimensions specified in the following rules are only minimums:

A. Courses must be tight enough so that cars run the entire course in their lower gears. Speeds on straight stretches should not normally exceed the mid-60s (mph) for the fastest Street and Street Touring® category cars. The fastest portions of the course shall be those most remote from spectators and property. Turns should not normally allow speeds in excess of 45 mph in unprepared cars. It must be remembered that sites themselves vary and not all sites will safely support the speeds shown in these guidelines (see Section 1.3). Conformity to these speed guidelines does not preclude reasonable and prudent consideration of the conditions encountered.

# Guidelines To Corner Speeds Based On The Radius Of A Turn

The table (page 27) is a guideline for Regional officials and course designers; it shows values of cornering speeds versus corner radius (not diameter) for various lateral accelerations. This data should be considered in light of other calculations which estimate that a fast Street, Street Touring, or Street Prepared car can pull well in excess of 1.0 g in lateral acceleration, and can accelerate from 30 mph to 70 mph in less than 300 ft.

- B. The course as laid out shall be on a paved surface which contains no dangerous holes, loose gravel, gratings, oily spots, or other hazardous features. Surface features (e.g., dips, crowns) which could cause a car to become airborne shall be avoided.
- C. The course boundary shall not normally pass closer than 25 ft. from solid objects.

# **Cornering Speeds in Miles Per Hour (MPH)**

		Turn Radius (ft)										
		20	30	40	50	60	70	80	90	100	125	150
Lateral g	0.90	16	20	23	26	28	31	33	35	37	41	45
	0.95	17	21	24	27	29	32	35	37	38	42	46
	1.00	17	21	24	27	29	32	35	37	39	43	47
	1.05	18	22	26	29	31	34	36	38	40	44	49
	1.10	18	22	26	29	31	34	36	38	41	45	50
	1.15	19	22	26	29	32	35	37	39	41	46	51
	1.20	19	23	27	30	33	35	38	40	42	47	52
	1.25	19	23	27	31	34	36	39	41	43	48	53
	1.30	20	24	28	31	34	38	40	43	45	50	55
	1.35	20	25	28	32	35	38	40	43	45	50	55

- D. The Solo® Safety Steward (SSS) shall have the authority to disapprove a course or site for karts only, when there are upright solid objects (e.g., light poles, fence posts, etc) on the site within 50 ft. of the actual course. This does not include curbs. While safety systems for karts provide acceptable driver protection for most incidents, upright solid objects present potential hazard for which kart safety systems are not well suited. This rule gives the SSS the option of excluding karts without having to declare the site unsafe for everyone. It is up to the judgment of the SSS whether the course design, surface, solid objects, and type of karts running present an unsafe mix. In most cases, the situation can be resolved by a course design change.
- E. Special caution should be applied where negative-cambered turns are used.
- F. A long straight (over 150 ft.) should not terminate in an extremely sharp turn (e.g., a short radius U-turn).
- G. Except on permanent circuits such as kart tracks, the inner and outer limits of turns and corners should be marked by course markers; displacement of which results in time penalties. Corner limits must never be marked by curbs, buildings, poles, trees, soft shoulders, or other hazards likely to cause damage to a car or likely to cause a car to overturn.
- H. Cars on the course simultaneously shall not run in close proximity to each other.
- I. All portions of the course shall be visible to at least one course marshal who can communicate through signals or by electronic means with the starting line.
- J. Extreme care shall be taken in the location of the start, finish, staging, and timing areas. The timers and staging area must be placed well clear of the course in a safe area. The finish section and course exit should be clearly and carefully defined to safely restrict speeds. It is not recommended that competing cars be required to come to a complete stop immediately following the finish line. It is preferred that cars be required to slow to a walking speed within a controlled area before returning to the grid or paddock areas. A complete stop should be required only when unusual site conditions exist. In all cases, a sufficient distance past the finish line must be available to safely slow or halt any competing car from the highest possible speed attainable at the finish without locking brakes or wild

- maneuvering. It is recommended that an official be assigned to control the finish area. Particular care must be exercised in the finish area to keep it free from hazard to participants and non-participants.
- K. Entrance and exit lanes shall enter the course at separate points, though they may be close together. They will be kept clear for use by competing cars at all times.
- L. Portions of the course where significant braking is necessary shall not terminate at a point where participants, non-participants, or obstacles are directly in front at a distance closer than that required to bring a car to a halt even with brake problems, a stuck throttle, etc.
- M. Participants and non-participants must be kept at a safe distance from the course, particularly at the outside of turns and at the start and finish lines. Unless protected by substantial barriers, non-participant areas must be roped off. The Solo® Safety Steward shall have the authority to set minimum viewing distances from the course but such minimum viewing distances may not be less than 75 ft. from the course edge in unprotected areas (areas without adequate barrier protection such as concrete or tire walls). A Region may request a waiver of this minimum distance requirement from its Divisional Solo® Safety Steward.
- N. Appropriate fire extinguishers, flags, and material for cleaning up fluid spills must be provided by the host Region.
- O. Any Solo® event where Formula Junior (FJ) uses the same course layout as all other classes: For any heat in which FJ is in competition, no car in the vicinity of the FJ grid or the course may be in motion under its own power when any FJ kart is moving under its own power. From the start of FJ competition, when the first driver in the class leaves the grid for the start line until the last driver has returned his kart to the FJ grid, this rule shall apply.

#### 2.3 COURSE DESIGN RULES

- A. All corners shall be negotiable without reversing by any car classified by make/model in the Solo® Rules.
- B. The course shall be at least 15 ft. wide and single-file slalom markers shall be at least 45 ft. apart. Any series of three (3) or more course markers which are generally in a line and have the effect of a slalom are considered to be a slalom. Additional course markers associated with the slalom markers to form gates, "boxes," etc, do not cancel this limit.
- C. A Solo® event, other than a gimmick event in which time is not the only consideration, shall be a test of driving skill, not memory.
- D. The course shall be well marked with pylons or other "markers." The base of each marker shall be outlined to permit accurate replacement if displaced.
- E. Cars should leave a gate/turn headed generally in the direction of the next gate/turn.

# 2.4 EVENTS AT RACE FACILITIES

Solo® events planned for commercial race facilities, or a private facility that could reasonably be construed to be similar in concept to a commercial race facility, must have approval from the current Divisional Solo® Safety Steward (DSSS). If in doubt, contact your DSSS.

#### 2.5 SPECTATOR SOLO® EVENTS

A spectator Solo® event is one that encourages the general public to come and watch the event, without signing the SCCA® release and waiver form, through wording on flyers or other media such as newspaper advertisements or radio. Events where admission is charged are also automatically considered spectator events. A Region should exercise care in how both it and its sponsors advertise an event if it does not apply for spectator event sanction and insurance. Spectator events, their site controls, layout, course, and safety measures must be specifically pre-approved by the Chairman of the Solo® Safety Committee (SSC) and an additional insurance premium paid. Spectator events must employ site and course control barriers.

#### 2.6 NON-SPECTATOR SOLO® EVENTS – ADVERTISING

- A. Solo® events may be advertised to the general public for the purpose of informing them of the activities of the SCCA® if the provisions of this Section are met.
- B. Advertising must be targeted to encourage the public to discover the SCCA® and its activities. Examples of acceptable language include, "Car buffs are invited to experience the SCCA®" and "Motorsports enthusiasts are invited to come see what the SCCA® is all about." The focus of the advertising must be recruitment of possible future participants.
- C. Advertising must not be broad based or entertainment oriented. Examples of unacceptable language would include, "Spectators welcome," "Spectators free," and "Come see the excitement slides, spins, screeching tires!" (entertainment example).
- D. All advertising must include a statement on waiver signing such as, "Everyone entering the event site must sign a release & waiver form."
- E. When an event is advertised in the manner above, a plan must be in place to limit access to the event site to those who have signed the release & waiver form and to issue a credential (wristband, etc) to those having signed the form. This may be done by either limiting physical access to controlled locations or by assigning multiple workers equipped with forms and credentials to continually survey the event site for non-credentialed people.
- F. It is highly recommended that a minimum of two (2) Solo® Safety Stewards be assigned to the event.
- G. Sanction application must be received by the SCCA® Solo® Department a minimum of 21 days prior to the event and must indicate that the event is a non-spectator advertised event.

# 2.7 KART SOLO® EVENTS

Solo® events which will have karts competing must so designate on the sanction application. Prior approval is not required. The rules for organizing and conducting a Solo® event with karts are found in Appendix G.

# 2.8 JUNIOR DRIVER PROGRAM

The Formula Junior (FJ) program is provided that allows regions to permit minors up to 18 years of age to compete in Solo® events in non-shifter-based racing karts. The purpose of this program is to serve as a tool for membership recruitment and retention by providing competition opportunities for the entire family. The rules for organizing and conducting a Junior Driver program are in Section 19, Appendix G, and Appendix H. As this program continues to develop, rule updates or clarifications may appear periodically in Fastrack News on the official SCCA® website (www.scca.com).

## 3. VEHICLES

# 3.1 ELIGIBLE VEHICLES

A Solo® event is open to any vehicle that can pass safety (tech) inspection, has the minimum bodywork specified by these Rules, and is properly muffled, except that vehicles with wheelbases exceeding 116" may be excluded by the Event Chairman if he determines, at his discretion, that they cannot readily negotiate the course. This decision shall be made in advance if possible and included in the advance publicity and supplementary regulations. Cars need not be licensed or licensable for road use, so long as they otherwise comply with the SCCA® Solo® Rules.

Models and option packages designated as being of a model year later than the current year are not eligible to compete in National Tour or Solo® National Championships, unless they have been specifically classed by the SEB. A newly-classed model or option package is not eligible for the current year's Solo® National Championships unless its listing was published no later than the July issue of the official SCCA® publication.

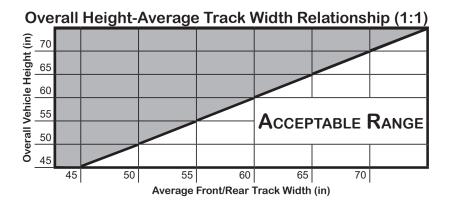
Unstable vehicles with a high center of gravity and a narrow track, including SUVs, minivans, and 4WD pickups, must be excluded. Examples of such vehicles are listed in Appendix A. Extra caution should be exercised with nontraditional vehicles (e.g., trucks using racing slicks).

#### A. Rollover Potential Guidelines

The SSC has reviewed the allowance of competing cars with higher roll centers and has prepared the following chart on the next page to be used as a guideline for assisting Regional members in determining whether a vehicle has a higher than average potential to roll over in Solo® competition. Vehicles falling into the acceptance range still have the possibility to roll over but they are less likely to roll over than those that are not in the acceptable range are. The chart below is for all vehicles not specifically listed in Appendix A.

The measurements are to be taken from the ground to the tallest point of the vehicle for the Overall Vehicle Height and the normal track measurement as stated in Section 12 for the Average Track Width.

The SEB may use a Static Stability Factor (SSF) for classing new vehicles. SSF is defined as ½ track width (T) divided by the height of the center of gravity above the road (H) and can be calculated by the formula SSF=T/2H.



- Vehicles with an SSF of less than 1.30 should not be permitted to compete in Solo® events due to the higher risk of rollover.
- B. Physically disabled drivers may use alternate vehicle controls and preparation items appropriate for the nature of their disability. In the case of a driver using alternate controls, extra care should be taken to ensure that the driver does have adequate control of the vehicle and that the control mechanisms can stand up to competition use. A waiver from the SCCA® Solo® Department is required for the use of such equipment in National Solo® events. Requests will be handled on a case-by-case basis.

#### 3.2 VEHICLE CLASSIFICATION

New car makes, types, and models will be classified by the SEB as soon as sufficient information is available to do so. The SEB may reclassify a car within the 12-month period following its initial classification, without the approval of the Board of Directors. "Initial classification" includes the addition of a new listing on an exclusion list.

## 3.3 VEHICLE SAFETY

#### 3.3.1 Driver Restraints

Seat lap belts are required in all cars and must be installed in cars with passive restraint systems that do not include a lap belt. Installation and the use of shoulder belts or harnesses is strongly recommended; however, non-factory upper body restraints may only be used in open cars, cars with targa-tops in the open position, or cars with T-tops in the open position when these two conditions are met:

- A. The roll structure must meet either the requirements of Appendix C or the SCCA® Club Racing General Competition Rules (GCR) Section 9.4.
- B. The top of the roll structure may not be below the top of the driver's helmet when the driver is in the normal driving position.

## 3.3.2 Roll Bars

Roll bars or roll cages are strongly recommended in all cars. A roll bar meeting the requirements of Appendix C or a roll cage meeting the requirements of the Club Racing General Competition Rules (GCR Section 9.4, Roll Cages For GT And Production Based Cars, and/or GCR Section 9.4.5, Roll Cages For Formula Cars and Sports Racing Cars) is required in all A Modified (AM), B Modified (BM), C Modified (CM), and F Modified (FM) vehicles and all open cars in Prepared Category, D Modified (DM) class, and E Modified (EM) class. For open cars in the Street, Street Touring®, Street Prepared, and Street Modified categories, the roll bar or roll cage height may be reduced from Appendix C or GCR 9.4 requirements to the highest possible height which fits within an installed factory-specified hardtop or convertible top. The roll bar or roll cage height may also be reduced in the same manner for cars in the Prepared category with a full original equipment windshield assembly and a standard (as defined herein) hardtop which has been bolted securely in place.

Double-hoop roll bars must fasten properly to the chassis/unibody as required by Appendix C, particularly at attachment points in the center of the car.

# 3.3.3 Safety Inspections

All vehicles must pass safety (tech) inspection on the following points prior to competing. Entry fees, if already paid, will be refunded if a car fails to pass safety inspection. Safety inspection is not concerned with the legality of a car.

The organizing Region may at its discretion provide an advisory inspection for vehicle classification and legality, in connection with technical inspection.

## A. Annual Inspection (optional)

An Annual Safety Inspection for a calendar year may be available for vehicles presented for inspection by an SCCA® member. When a vehicle has completed the requirements for an Annual Safety Inspection, an official Annual Tech card will be issued to allow Registration or other designated event officials to verify Annual Tech prior to the start of competition. An official Region SCCA® Annual Tech sticker shall be placed on the vehicle in a location that will be visible to the starter when the vehicle approaches the start line for a competitive run. If the Annual Tech sticker has been removed, the card may be used to obtain a replacement. Alternatively, individual event tech stickers can be issued when the Annual Tech card is presented rather than the issuance of an Annual Tech sticker. The Annual Tech should be honored for all SCCA® sanctioned Solo® events in that Region. The following conditions apply to all Regional implementations of Annual Tech:

- Regions have the option of placing additional restrictions on the Annual Tech process, such as limiting the classes allowed and/or restricting it to experienced drivers.
- The Annual Tech inspection must be conducted by an experienced inspector appointed by the Regional Solo® chairperson. It is strongly recommended the Region Tech Inspector appoint and train an adequate number of assistants.
- 3. The vehicle should be presented for Annual Tech in the same condition in which it will compete.
- 4. It is the responsibility of all competitors in a vehicle with an Annual Tech approval to verify that all items in Section 3.3.3 are in compliance.
- 5. The event technical inspector or chairperson may require a vehicle be presented for a re-inspection if there is good reason to believe that a vehicle is not in compliance with Section 3.3.3.
- 6. A vehicle must be re-inspected if modifications are made to the car after receiving an Annual Tech approval.
  - An official SCCA® Annual Tech sticker may be affixed to helmets meeting the current standards in order to easily identify eligible helmets.

## **B.** Inspection Requirements

- All loose items, inside and outside the car, must be removed. Hand held items, such as but not limited to, cameras and cell phones are considered loose items.
- Pedal operation must not be impeded. Driver's side floor mat must be removed unless securely mounted. OE fasteners designed to prevent the mat from moving forward satisfy this requirement if they are in good working order.
- 3. Passenger's seat back and all cushions, bolsters, headrests, etc. must be secured. All allowed aftermarket replacement seats (i.e., driver and passenger) must be securely and safely mounted. Special care should be taken when using other than OE mounting points and/or fabricated bracketry.
- 4. Any cameras, if installed, must be securely mounted to withstand loads from driving maneuvers. The camera may be installed either inside or on the outside of the car. In either case, its mounting method and posi-

- tion must not interfere with driving or pose an additional hazard to driver, passenger, or course workers.
- Snap-on hubcaps, detachable fender skirts, and trim rings must be removed.
- 6. Wheels must be safely affixed. They shall not be reversed so that the lughole taper does not mate with the chamfer of the lugs. All studs and lug nuts must be present and functional.
- 7. Tires must be in good condition, with no cord or belts showing or cracks in the tread or sidewall. Each tire must have measurable (i.e., exhibiting positive measurement values) tread depth at no less than two points on the tire which are 180° apart around the circumference, and which are within the center one-half of the tread surface that normally contacts the ground. Tires may not have cord visible at the start of competition.
- 8. Seat belts (and harnesses if used) must be properly installed with attaching hardware, in good condition, secure, tight, and in compliance with Section 3.3.1.
- 9. Throttle return action shall be safe and positive.
- 10. No excessive fuel, oil, water, or brake fluid leaks should be observed. For all Prepared and Modified category vehicles, engine crankcase vents and radiator overflow/breather lines must terminate in containers of at least one quart capacity. These containers cannot be vented into the driver/passenger compartment. Crankcase, oiling system, breather, or catch tank evacuation systems that are in any way connected to the exhaust system are prohibited. Vent tanks are not required with systems which are completely closed (i.e., have no venting to the atmosphere). All oil lines passing through the driver/passenger compartment shall be made of metal braided hose or equivalent (e.g., Nomex, Kevlar, or nylon-braided hose) with AN Series threaded couplings or entirely covered and protected with a metal cover (this does not apply to the small oil lines used for mechanical oiling system gauges).
- 11. Steering "spinner" knobs shall not be permitted.
- 12. No broken or missing spokes or more than one loose spoke per wheel shall be permitted in wire wheels. No cracks shall be permitted in disc or cast wheels. Other than standard parts as defined by these rules, non-metallic wheel construction is prohibited (FSAE cars are exempt from this requirement since the FSAE rules allow non-metallic wheels).
- 13. Brakes must have an adequate pedal, sufficient fluid in the master cylinder, and no apparent hydraulic leaks under pressure. Vehicles must have a brake mechanism acting upon each wheel. The braking system shall be a dual system, arranged in a manner to provide braking for at least two wheels in the event of failure in part of the system. In the case of OE single systems, this requirement may be satisfied by a functional, redundant emergency brake. Karts are exempt from this requirement.
- 14. All swing axle cars, except Porsche, must have a camber compensator, have negative camber on the rear wheels, or have axle-limiting straps. Standard pre-1967 Volkswagen straps are not sufficient.
- 15. Wheel bearings, shocks, steering, and suspension shall be in good operating condition.
- 16. Exhaust must exit behind the driver or exit to the side of the car.
- On-board starters shall be provided.

- 18. All batteries (on-board power supplies) shall be attached securely to the frame or chassis structure, independent of any container or cover that may be present. Any wet-cell battery moved from the manufacturer's original location shall be in a non-conductive, marine-type container or equivalent and the "hot" terminal shall be insulated. NOTE: This will allow the use of gel cell or dry cell (AGM) batteries without a non-conductive, marine-type container where applicable.
- 19. Roll bars, if installed, must meet the applicable portions of Section 3.3.2 and Appendix C with specific attention to roll bar height.
- 20. Helmets for all occupants of the vehicle are to be inspected for condition, fit, and compliance with Section 4.3.1, Driver's Safety Equipment, Helmets.
- 21. Flex fans are not allowed.
- 22. Alcohol may not be used in manifold injection or spray bottles unless it is specified for this use by the OEM.
- 23. For cars competing on non-DOT-approved tires, the vehicle safety requirements as referenced in each category rule set, in addition to those in Mandatory Sections of the Solo® Rules, shall be adhered to by all entrants.
- 24. A vehicle must meet the requirements of Section 3.3.2 as they apply to all categories in which it is entered.
- 25. For all karts, chain guards are required on engines.
- 26. For all karts, a "brake safety cable" or redundant brake pedal connection is required.

## 3.3.4 Vehicle Operating Condition

Any car that is judged by the Event Chairman to be in an unsafe operating condition at any time during the event shall be barred from further competition until the deficiency is corrected to the satisfaction of the Chief Technical Inspector.

# 3.4 LIMITED AVAILABILITY OPTIONS

The SEB may designate limited availability option packages as inappropriate for the Street Category even though the base car is eligible for Street. Such exclusions will be included in Appendix A (Automobile Classes).

# 3.5 MUFFLERS

Adequate mufflers are required for Solo® events. The criterion of "adequacy" is not what the exhaust system consists of, but the sound level. Any car deemed by the Event Chairman or his designated representative to be excessively loud shall not compete without acceptable modifications installed on the car.

# **3.6 FUEL**

- A. Street and Street Touring® category vehicles will use fuel which is "Federally approved for use on public highways." This includes the pump fuel known as E85, but does not allow racing-type fuels which are available at service station pumps. Fuels comprised of more than 15% ethanol may only be used when specified by the manufacturer (e.g., in the owner's manual for flex-fuel vehicles).
- B. In addition to fuels which are allowed by Section 3.6.A, Street Prepared, Street Modified, Prepared, and Modified category vehicles may use diesel fuel, any grade of gasoline, or Federally-approved E85. Gasolines consist

entirely of hydrocarbon compounds. Gasoline may contain antioxidants, metal deactivators, corrosion inhibitors, and lead alkyl compounds such as tetraethyl lead. Oxygen and/or nitrogen bearing additives are prohibited except for those originally present in fuel which is Federally approved for use on public highways. Oxygen and/or nitrogen bearing oil additives are prohibited in two-cycle engine oiling systems.

- C. Propane or CNG (compressed natural gas) fuel may be used in any category provided that the following conditions are met:
  - 1. The tank must be located in a safe location on the car, and be firmly and securely mounted. This does not permit the cutting of vehicle sheet metal (e.g., the trunk floor) for tank installation in Street, Street Touring®, Street Prepared, or Street Modified categories.
  - 2. The tank must conform to Federal and local container standards and have an emergency relief/cut-off control.
  - 3. For use of propane or CNG as a fuel, no changes to the induction system of the engine may be made with the exception of the necessary fuel lines to the carburetor or fuel injection. There may also be no other engine parts changed.
  - 4. The entire system must meet local ordinances covering the use and transmission of compressed gas.
  - 5. Propane or CNG may not be used in combination with another fuel.

#### 3.7 VEHICLE IDENTIFICATION

- A. All vehicles must display numbers and class letters on both sides, which must be readable by Timing & Scoring, Course, and Grid workers at all times.
- B. Only one set of numbers and class letters may be visible while the vehicle is running.
- C. Class shall be represented by the upper-case abbreviated form rather than be spelled out. Ladies' classes shall be indicated by the letter "L" following the class letters. (Example: "BSPL" instead of "B Street Prepared Ladies").
- D. Numbers and class letters should be positioned next to each other. All letters and numbers must be on body panels, not on windows. All numbers and class letters must use the same typeface and the same color, and this color must provide adequate contrast to the background color (see Appendix F for examples).
- E. Numbers must be a minimum of 8" (20.5 cm) high with a  $1\frac{1}{4}$ " (3.25 cm) stroke. Class letters must be a minimum of 4" (10.25 cm) high with a  $\frac{3}{4}$ " (2 cm) stroke. In all cases, the height of the class letters must be between 25% and 75% of the height of the numbers. Stroke width must be at least 10% of the height (see Appendix F.)
- F. The "1" on two-driver cars and the "L" on Ladies class cars are subject to all of the above requirements with regard to placement, color, size, and stroke.
- G. Karts may use numbers and class letters of reduced size provided that the following conditions are met:
  - 1. Numbers must be displayed on the front and rear in addition to both sides.
  - Class letters must be on both sides.
  - 3. In no case may the numbers be smaller than 6" (15.25 cm) in height with ¾" (2 cm) stroke, using a high-contrast color and background.

H. For National Championship and National Tour competition, current official SCCA® required decals must be displayed on each side and front of the vehicle in a prominent location.

For National Championship and National Tour events, one (1) official SCCA®-approved National sponsor identification logo must be displayed in an upright position, in a prominent location on each side of the vehicle. Additional sponsor and/or event specific decals may also be required; refer to event supplemental regulations. Further information is contained in Appendix F.

#### 3.8 REQUIRED DOCUMENTATION

The entrant has the burden of proving that the vehicle conforms to the Solo® Rules by the required documentation for the category/class, as noted below. The required documentation should be considered as an extension of these Rules.

- A. Street, Street Touring®, Street Prepared, and Street Modified: The official manufacturer service documentation for the make, model, and year of the vehicle as entered, if ever available to the consumer from the manufacturer. Additional official manufacturer service documentation for other years and/or models may also be required to cover equipment and/or specifications authorized by update/backdate allowances. Other official manufacturer documentation, such as the owner's manual, shop manual, parts catalogs, technical bulletins, sales & marketing literature, or Monroney window sticker, may be provided as supporting information. All manufacturer documentation must be for non-competition purposes.
- B. Cars prepared to the SCCA® Club Racing General Competition Rules (Improved Touring, American Sedan, Touring, Spec Miata, Production, GT, Formula cars, Sports Racers, etc.): Current year GCR and appropriate Category Specifications plus any additional documentation required by those rules. Logbooks are not required.
- C. Prepared category, A Modified class (AM), D Modified class (DM), and E Modified class (EM): No additional documentation required.
- D. Kart Modified (KM) and Formula Junior (JA, JB, and JC):

World Formula engine: Briggs & Stratton Performance Guide and Racing Log which includes specifications and part numbers.

Other approved karts: Technical manual including the specifications to which the kart was prepared.

E. Formula SAE (FSAE): Applicable FSAE Specifications.

# 4. DRIVERS AND CLASSES 4.1 DRIVER'S CREDENTIALS

A. Drivers must be SCCA@ members. (A Weekend Membership meets this requirement.)

Drivers in all categories except Kart must possess a currently valid automobile driver's license. Driving license or permit restrictions must be followed. If those restrictions require a passenger and the event allows a passenger, that passenger must be either the driver's parent/legal guardian or an instructor who meets the restriction requirements. Instructors must have the written permission of the driver's parent/legal guardian witnessed by an adult SCCA® member or notarized (Sections 1.3.2 and 4.13) to ride as a passenger and the restrictions imposed by the underage driver's state of residence must allow the instructor to ride as a passenger.

Kart Modified (KM) drivers that do not have a driver's license or permit must meet the following prerequisites:

- 1. Minimum age is 15 years old.
- 2. Drivers must have approval of the event Chairman and the event Solo® Safety Steward.
- 3. Drivers must have participated in at least four (4) National Solo® Events in Formula Junior class A (JA).
  - Formula Junior drivers, regardless of license status, must follow the minimum age restrictions per Section 19.2.
  - The provisions of Section 4.1.D provide event officials discretion with regard to the entry of any driver, including the ability to prevent a driver from completing their runs provided a full refund is given.
- B. Drivers are responsible for knowing and understanding the SCCA® National Solo® Rules. Ignorance of the Solo® Rules will not be accepted during any adjudication of issues regarding event operations, vehicle compliance, driver/crew behavior, or any other topics. It is strongly recommended that competitors have a copy of the current Solo® Rules at all SCCA® Solo® events, especially at National events.
- C. Any competitor or worker with a known medical condition (including pregnancy) which could affect his/her ability to compete may do so only with the concurrence of his/her personal physician.
- D. The event organizers have the right to refuse an entry at their discretion. This permits organizers to protect themselves and their programs by declining the entry of someone who is believed to pose a safety hazard or other significant threat. For this purpose the event organizer is defined as:
  - 1. Regional Event: Event Chairman or Region Solo® Chairman.
  - 2. National Tour and Championship Events: Committee of Vice President of Rally/Solo®, Event Chairman, and SEB Chairman.
  - 3. ProSolo®: Vice President of Rally/Solo® or designee.

# **4.2 EVENT ENTRY**

Entry into all SCCA® Solo® events is limited to those individuals meeting the Mandatory Sections of the Solo® Rules. Additional entry requirements follow.

- A. Regional Events Requirements are determined by the Region organizing committee.
- B. National Solo® Events Drivers in National Solo® events must be individual, spouse, family, or First Gear SCCA® members. Except for the Solo® National Championships, a Weekend Membership meets these requirements.
- C. National Solo® Entry Fees
  - 1. All entries are to be submitted online on the SCCA® website (www. scca.com) by the indicated deadlines. The entry fee shall be paid only with credit card or debit card: Discover, MasterCard, or Visa. Cancellations must be made in writing to the SCCA® Solo® Department (email to bharmer@scca.com is preferred). Updated deadlines, and refund requirements for all events will also be on the SCCA® web site. If the maximum number of entries (entry cap) has not been reached, entries may be submitted until 7:00 PM the day before competition begins.

2. Please contact the Solo® Department by phone at 1-800-770-2055 or go to the SCCA® website (www.scca.com) for current entry fees and entry forms.

# 4.3 DRIVER'S SAFETY EQUIPMENT

#### 4.3.1 Helmets

Helmets meeting the following standards must be worn while on course:

All helmets meeting the latest or two immediately preceding Snell Foundation standards (SA2015, SA2010, SAH2010, SA2005, M2015, M2010, M2005, K2015, K2010, K2005); SFI standards 31.1, 41.1, 31.1A, 31.2A, 41.1A, 41.2A; ECE R22.05; FIA standards 8859-2015, 8860-2010, 8860-2004; or British spec BS6658-85 type A are acceptable.

Full face or modular helmets shall be worn while competing in an openwheel car, formula car, or kart. Face shield, goggles, or similar face protection (conventional eyeglasses are not sufficient) shall be worn while competing in any other vehicle with less than the standard-size windshield.

Formula Junior drivers must use helmets meeting the above, SFI 24.1 (Youth Helmets), Snell CMR2007 (Children's Motorsports Restricted), or Snell CMS2007 (Children's Motorsports Standard) specifications. Also, Formula Junior helmets must be of closed face design incorporating full face shields and chin bars.

For maximum protection, helmets must fit securely and should provide adequate peripheral vision. The chin strap must be securely fastened. Loaner helmets should be available to vehicle occupants not having their own.

#### 4.3.2 Seat Belts

Driver restraints complying with Section 3.3.1 shall be worn while on course. The "CG-Lock®" is considered compliant for use in all applicable categories.

## 4.3.3 Footwear

Shoes covering the entire foot shall be worn.

# 4.4 CAR/DRIVER LIMITS

- A. A driver may enter an event only once.
- B. A given car may be entered by no more than two (2) drivers in the same class.

# 4.5 CAR/DRIVER CHANGES

If during the event a vehicle develops mechanical problems resulting in its permanent withdrawal from the class heat competition, its driver(s) may finish his/her (their) runs in another vehicle which is compliant in that class, provided the original vehicle is permanently withdrawn from the class competition for that day and heat. Drivers needing to finish their runs in another vehicle must obtain the approval of the Chief Steward or the Operating Steward. A driver may change cars prior to the beginning of competition until the driver's class heat begins, at the discretion of the Chief Steward or Chief of Registration in consultation with the Chief of Timing.

# 4.6 RESPONSIBILITY FOR CAR CLASSIFICATION

The driver is responsible for the correct determination of the car's category and class. If in doubt as to classification or concerning the conformity of the car or its equipment to the rules governing the class, he/she may submit a Request for Clarification to the Protest Committee, which will determine the matter under the procedures of Section 8. It is the driver's responsibility to assure the proper number is on the car prior to competing.

#### 4.7 LADIES CLASSES

- A. Parallel Ladies classes will be provided for females who wish to enter them.
- B. Females will have the option of running in the Open classes.
- C. Scoring for the Ladies classes will be handled in the same manner as the Open classes.

#### 4.8 DEFINITION OF CLASS TYPES

- A. National Class Any class defined in this rulebook that is recognized as eligible for a National Championship. This explicitly does not include Supplemental classes. These classes are automatically offered at National Tour and National Championship events. In determining whether or not a class will achieve National Class status, that class will be evaluated on whether it:
  - 1. has at least 25 participants (Open and Ladies Classes) for 3 of 4 consecutive National Championships or
  - 2. has at least 40 participants (Open and Ladies) for 2 of 3 consecutive National Championships or
  - 3. fits with the long-term vision for the continued growth of Solo® according to Introductory Section I.2.3 of the Solo® Rules.
- B. Supplemental Class Any non-National class running under a proposed rule set for purposes of evaluation. It may be run alone or within a parent class. Its drivers may or may not be eligible for awards.
- C. Regional Class Any class not listed in these Solo® Rules but created by a Region or other entity for local purposes.

#### 4.9 CONFLICT OF INTEREST

No person may compete who has pre-run through all or any part of the course, in or on any wheeled vehicle, except a competitor with a physical disability that impairs his/her ability to walk may, with the approval of the Chief Steward, use a wheelchair or similar aid traveling at normal walking speed to accomplish the requirements of Section 6.3. All event officials, whether competing in the event or not, must use caution to avoid individual conflict of interest situations during the event.

# 4.10 MEDICAL

Any competitor with a known medical condition (including pregnancy) which could affect their ability to compete may do so only with the concurrence of their personal physician.

# 4.11 LICENSES

All licenses will expire on the membership anniversary date and will be renewed by Member Services upon receipt of a completed application and license fee, if any. Currently, there are no applicable licenses for Solo® events and/or participation at the time of publication.

# 4.12 ASSUMPTION OF RISK

Solo® is a potentially dangerous activity that can result in serious injury or death. Participation in all aspects of the activity is voluntary. The ultimate responsibility for participant and vehicle safety lies with the participant, vehicle owner, driver, and crew members.

The participant agrees that by entering an event, the participant has had the opportunity to inspect the event site and acknowledges that the event site is safe and suitable for competition. The participant also acknowledges that by

participating in the event, the participant may suffer bodily injury or death, or loss or damage to property. The participant further acknowledges that the participant has voluntarily assumed the risk of bodily injury or death or loss or damage to property and waives any claims for bodily injury or death, or loss or damage to property against SCCA®, its directors, officers, employees/agents, event officials, event sponsors, racetrack operators, site owners/operators, and other participants; discharges such persons and entities from responsibility for such losses; and covenants not to sue such persons and entities for bodily injury or death or loss or damage to property.

## 4.13 INSURANCE RELEASE AND WAIVER

#### A. ADMINISTRATIVE PROCEDURES (Refer to Introductory Section I.10)

In accordance with the SCCA® insurance guidelines, all competing and non-competing participants at or over the age of majority in the state in which the event is being conducted must sign a Release and Waiver of Liability, Assumption of Risk and Indemnity Agreement. Those under the age of majority must have a completed Annual Parental Consent, Release and Waiver of Liability, Assumption of Risk, and Indemnity Agreement on file with SCCA®. All competitors, except participants in Kart classes, must also have a valid driver's license.

The Minor Waiver form must be signed by both parents/legal guardians if the minors are to be drivers/passengers and/or non-competing participants. If signed by both parents/legal guardians and properly filled out to apply to "All SCCA® and SCCA® Pro Sanctioned Events" and dated, the form is valid at all SCCA® events.

All parent/legal guardian signatures must be witnessed by an adult SCCA® member. If the wavier cannot be witnessed by an adult SCCA® member, the appropriate waiver form may be notarized.

## B. EXECUTION OF REQUIRED FORMS and RELEASE AND WAIVER OF LI-ABILITY, ASSUMPTION OF RISK, AND INDEMNITY AGREEMENT

As set forth above, all participants or, where applicable, the parents/legal guardians shall be required as a condition of participation to sign all required entry forms including but not limited to such releases as shall be required by SCCA® and/or its insurers consisting of the following or similar wording. Whether or not the participant or, where applicable, the parents/legal guardians sign(s) such releases, the participant or, where applicable, the parents/legal guardians on behalf of a minor participant agree(s) to the terms set forth below and any participant is hereby put on notice of such terms and makes such agreement and/or acknowledges the terms of the below either by receiving this rulebook or by participating in an SCCA® event, or both.

IN CONSIDERATION of being permitted to compete, or officiate, observe, work for, or participate in any way in SCCA® OR SCCA® PRO SANCTIONED EVENTS and/or being permitted to enter for any purpose any RESTRICT-ED AREA(S) (defined to be any area which requires special authorization, credentials, or permission to enter or any area to which admission by the general public is restricted or prohibited), I, for myself, my personal representatives, heirs, and next of kin:

 Acknowledges, agrees, and represents that he has or will immediately upon entering any of such RESTRICTED AREAS, and will continuously thereafter, inspect the RESTRICTED AREAS which he enters, and he further agrees and warrants that, if at any time, he is in or about RE-STRICTED AREAS and he feels anything to be unsafe, he will imme-

- diately advise the officials of such and if necessary will leave the RE-STRICTED AREAS and/or refuse to participate further in the EVENT(S).
- 2. HEREBY RELEASES, WAIVES, DISCHARGES AND COVENANTS NOT TO SUE the promoters, participants, racing associations, sanctioning organizations or any subdivision thereof, track operators, track owners, officials, car owners, drivers, pit crews, rescue personnel, any persons in any RESTRICTED AREA, sponsors, advertisers, owners and leassees of premises used to conduct the EVENT(S), premises and event inspectors, surveyors, underwriters, consultants and others who give recommendations, directions, or instructions or engage in risk evaluation or loss control activities regarding the premises or EVENT(S) and each of them, their directors, officers, agents, employees, representatives, owners, members, affiliates, successors and assigns all for the purposes herein referred to as "Releasees," FROM ALL LIABILITY TO THÊ UNDERSIGNED, his personal representatives, assigns, heirs, and next of kin FOR ANY AND ALL LOSS OR DAMAGE, AND ANY CLAIM OR DEMANDS THEREFOR ON ACCOUNT OF INJURY TO THE PERSON OR PROPERTY OR RESULTING IN DEATH OF THE UNDERSIGNED ARISING OUT OF OR RELATED TO THE EVENT(S), WHETHER CAUSED BY THE NEGLIGENCE OF THE RELEASEES OR OTHERWISE.
- 3. HEREBY AGREES TO INDEMNIFY AND SAVE AND HOLD HARMLESS the Releasees and each of them FROM ANY LOSS, LIABILITY, DAMAGE, OR COST they may incur arising out of or related to the UNDERSIGNED'S INJURY OR DEATH, WHETHER CAUSED BY THE NEGLIGENCE OF THE RELEASEES OR OTHERWISE.
- 4. HEREBY ASSUMES FULL RESPONSIBILITY FOR ANY RISK OF BODILY INJURY, DEATH OR PROPERTY DAMAGE arising out of or related to the EVENT(S) whether caused by the NEGLIGENCE OF RELEASEES or otherwise.
- 5. HEREBY acknowledges that THE ACTIVITIES OF THE EVENT(S) ARE VERY DANGEROUS and involve the risk of serious injury and/or death and/or property damage. Each of THE UNDERSIGNED, also expressly acknowledges that INJURIES RECEIVED MAY BE COMPOUNDED OR IN-CREASED BY NEGLIGENT RESCUE OPERATIONS OR PROCEDURES OF THE RELEASEES.
- 6. HEREBY agrees that this Release and Waiver of Liability, Assumption of Risk and Indemnity Agreement extends to all acts of negligence by the Releasees, INCLUDING NEGLIGENT RESCUE OPERATIONS and is intended to be as broad and inclusive as is permitted by the laws of the State or Province in which the Event(s) is/are conducted and that if any portion thereof is held invalid, it is agreed that the balance shall, notwithstanding, continue in full legal force and effect.

I HAVE READ THIS RELEASE AND WAIVER OF LIABILITY, ASSUMPTION OF RISK AND INDEMNITY AGREEMENT, UNDERSTAND ITS TERMS, UNDERSTAND THAT I HAVE GIVEN UP SUBSTANTIAL RIGHTS BY SIGNING IT, AND HAVE SIGNED IT FREELY AND VOLUNTARILY WITHOUT ANY INDUCEMENT, ASSURANCE OR GUARANTEE BEING MADE TO ME AND INTEND MY SIGNATURE TO BE A COMPLETE AND UNCONDITIONAL RELEASE OF ALL LIABILITY TO THE GREATEST EXTENT ALLOWED BY LAW.

## 5. OFFICIALS

# 5.1 CHIEF STEWARD (TOUR, NATIONAL CHAMPION-SHIP)

A Chief Steward shall be appointed for all Solo® National Tour and National Championship events. This person shall be responsible for ensuring that the general conduct of the event is in accordance with the Solo® Rules and the supplementary regulations for the event. After the start of the event, the authority of the Chief Steward shall supersede that of the Event Chairman regarding the effectiveness of event administration procedures in achieving the intent of all applicable rules. However, selection of event administrative procedures remains the responsibility of the Event Chairman as long as those procedures achieve compliance with the Solo® Rules and event supplementary regulations. The Chief Steward is recommended to be a member of an SCCA® Region other than the host Region.

The Chief Steward shall:

- A. Be appointed by the SCCA® Solo® Department for National Tour events and the SEB for the National Championship event. Examples of an individual qualified to be appointed to this position are a past or present SEB member, Solo® Development Coordinator (SDC), or National and Divisional Chief Steward from the Club Racing program with a working knowledge of the Solo® Rules.
- B. Prohibit entry of any vehicle not meeting safety (tech) requirements as reported by the Chief Technical Inspector.
- C. Report to the Protest Committee any vehicles found non-compliant during Impound as reported by the Chief of Impound.
- D. Not serve in any other official capacity during the event.
- E. Appoint an Operating Steward for the event.
- F. This position shall be filled by an SCCA® member.

# 5.2 OPERATING STEWARD

The Operating Steward is responsible for executing the plans and procedures established by the Event Chairman and Divisional Solo® Safety Steward (DSSS) to successfully complete the program of competition. The Operating Steward will be appointed by the Chief Steward and may be a member of the host Region. If the Operating Steward believes a change in event procedures is necessary to achieve compliance to the Solo® Rules and supplementary regulations, the Operating Steward shall recommend appropriate modifications to the Chief Steward for approval. If approved, the Operating Steward will implement the modifications. This position shall be filled by an SCCA® member.

# **5.3 EVENT CHAIRMAN**

The Event Chairman is the chief planner and organizer of the event. The Event Chairman shall design and establish, or oversee development of, all necessary event administrative process including:

- A. Establishing event administration procedures that achieve compliance with all applicable Solo® Rules and supplementary regulations, including a waiver signing system.
- B. Formulating procedures to implement the plans of the Divisional Solo® Safety Steward (DSSS) for ensuring spectator, driver, and worker safety.

C. Design, layout, and pre-running of a suitable course. (EXCEPTION: The approval of the design and layout is the responsibility of the SEB for the National Championship event and the Solo® Department for Tour events.) At controlled-access event sites, appoint adult SCCA® members to control entry access by having all persons sign the release & waiver form and receive a signature credential (wristband or similar means of identification) before entering the event site.

For uncontrolled-access event sites, appoint adult SCCA® members to assure that competitors, workers, crew, and guests have signed the release and waiver form and received a signature credential (wristband, hard-card, or similar means of identification). Shall also appoint adult workers equipped with forms and credentials to continually survey the event site for non-credentialed people.

The SSS will verify that the Event Chairman has a system in place to assure that persons at the event site have signed the release and waiver form and received a signature credential. Further, the SSS will ensure that the release and waiver form has the event, the date, and the signatures of the SCCA® member witnessing the participant's signatures.

D. This position shall be filled by an SCCA® member.

## 5.4 SOLO® SAFETY STEWARD

The Solo® Safety Steward (SSS) will also verify that the Certificate of Insurance is present at the event site and correct before the event begins. If this is not in order, the SSS must confirm corrections or issuance of the certificate with SCCA® Solo® Department prior to the start of the event. If outside of business hours, the SSS must call the Insurance/Incident Emergency Number: John Beam, 704-962-0252.

The duties of the SSS shall concern the safety of the spectators, workers, and driver safety relative to course design. Control over course design extends only to such issues as course or near-course hazards and not to design philosophy. In Solo® events, safety issues are those such as listed in Sections 1.3 and 2.1. This includes course security, which is defined as maintaining control over spectator access to the course.

This position shall be filled by an SCCA® member who is 18 years of age or older.

# 5.5 CHIEF OF WAIVERS

The Chief of Waivers shall be responsible for ensuring that the waiver function complies with the requirements of the SCCA® insurance coverage as regards Solo® events. Specifically, the Chief of Waivers shall ensure that the following are met:

- A. The waiver function follows the Solo® Department guidelines.
- B. All waivers used at an event are correctly signed, witnessed (by an adult SCCA® member), and completed, including the event designation, location, date, and all required signee and witness information.
- C. Necessary supplies and equipment are maintained as applicable.
- D. Waiver workers are on duty from the time the gate or site is opened until the event has been completed.
- E. Waiver workers have been recruited, trained, and assigned in cooperation with the Chief of Workers.
- F. Waiver workers are SCCA® members.

- G. Communication is provided between the waiver station(s) and event administration.
- H. Waivers are properly stored for the number of years required by the Solo® Department guidelines and local laws.

This position shall be filled by an adult SCCA® member. It is strongly recommended that the Chief of Waivers perform no other duties for the event.

# 5.6 CHIEF TECHNICAL INSPECTOR

The Chief Technical Inspector shall be responsible for ascertaining that the vehicles comply with the requirements of the Solo® Rules and the Supplementary Regulations. Specifically, the Chief Technical Inspector shall ensure that the following tasks are performed:

- A. Inspect for and certify that vehicles and driver safety equipment comply with all safety regulations.
- B. Conduct inspections of automobiles at the request of the Chief Steward.
- C. Report to the Chief Steward any automobiles that he finds do not conform to requirements of the Solo® Rules or the Supplementary Regulations.
- D. Ensure that the appearance of each automobile is neat and clean. Automobiles that are not presentable will not be allowed to compete.

The Chief Technical Inspector is not responsible for car classification; that responsibility falls to the entrant as described in Section 4.6. This position shall be filled by an SCCA® member.

## 5.7 CHIEF OF TIMING AND SCORING

The Chief of Timing and Scoring is responsible for accurately taking, reading and recording times, posting them conspicuously during the event and preparing the official results. This position shall be filled by an SCCA® member.

## 5.8 CHIEF OF COURSE

The Chief of Course is responsible for observation of competing cars on course, lining cars up for entry onto the course, providing starting signals, directing cars off the course at the conclusion of a run, crowd control, and for roping off the course or otherwise providing barriers so that the course complies with Section 2. This position shall be filled by an SCCA® member.

## 5.9 CHIEF OF IMPOUND

The Chief of Impound is responsible for procedures described in Section 6.10 to verify vehicle compliance with the Solo® Rules and Supplementary Regulations. The Chief of Impound will conduct inspections of vehicles independently or at the request of the Chief Steward and will report to the Chief Steward any vehicles found not to be in compliance with the Solo® Rules or Supplementary Regulations. This position will be filled by an SCCA® member.

# 5.10 CHIEF OF PROTEST

The duty of the Chief of Protest is to serve as Chairman of the Protest Committee, to provide leadership to the Protest Committee, and to provide notification of protest decisions to the parties involved (i.e., the protestor[s] and protestee[s]). He/she may or may not elect to vote on protest rulings. He/she may also be a driver in the same event, but will perform no other duties for the event.

## **5.11 PLURALITY OF DUTIES**

The same person may hold more than one official position except that the Chief Steward and the Solo® Safety Steward may not serve in any other official capacity.

# 6. EVENT OPERATION

## **6.1 ENTRANTS AS WORKERS**

At National Solo® events, the entrants may be required to work. The method by which the entrants may be required to work will be described in the event Supplementary Regulations. Failure to work will result in disqualification from the event.

#### 6.2 COURSE MAP

A map of the course, showing all markers, the proper course, approved optional courses, solid objects, and potential problem areas, will be posted prior to the start of the event. The course configuration must be the same for all drivers in a class.

## **6.3 COURSE FAMILIARIZATION**

Each driver will be provided an opportunity to walk or drive through the course or to have a parade lap before his first official run. See also Section 4.10.

## **6.4 LEMANS STARTS FORBIDDEN**

No start or finish shall be used wherein the driver is not seated in the vehicle with seat belt buckled.

#### 6.5 TIMING POINTS

- A. A car will commence its run at least 15 feet before the point at which timing begins.
- B. Time at the end of the run will be taken in a manner which complies with Section 2.2.J.

It is recommended that an official be assigned to control the finish area. A complete stop is not required at the finish if sufficient area is available to safely halt any competing car without locking brakes or wild maneuvering (from the highest possible speed attainable at the finish). Particular care must be exercised in the finish area to keep it free from hazard to participants and non-participants.

# 6.6 REPLACEMENT OF MARKERS

Displaced markers will be replaced before the next competitor enters that portion of the course. Where an official run covers all or part of the course twice, course marshals should have extra markers so that markers displaced during the first part of the run can be replaced before the competing car returns to that section. If a driver encounters his/her own displaced marker(s), he/she may not stop and receive a rerun.

# 6.7 VISUAL OR ORAL INSTRUCTION

No visual or oral instruction shall be given to a driver during his timed runs except in an emergency situation.

# 6.8 ORDER OF RUNNING

Cars may run in any of the following orders, as specified in the supplementary regulations:

- A. All cars will take their first runs and then all cars will take their second runs in either the same or reverse order.
- B. Cars will run in heats of a specified number (approximately 25 is recommended), with all cars in the heat taking all runs before the next heat begins its runs.
- C. Cars will run by classes with each class taking all of its runs before the next class takes its runs. The advance publicity shall specify the earliest time each class will run. Drivers will be responsible for being present for their runs and no out-of-class runs will be granted.
- D. Cars will run by groups of classes, for example: A Street (AS), B Street (BS) and C Street (CS), with all cars in AS taking their first runs, then BS taking its first runs, followed by CS, before AS takes its second runs, etc. The group will take their runs before the next group begins its runs. NOTE: In National Championship and Tour events, all cars shall run in class whatever method is used. The supplementary regulations shall clearly indicate the method of running, the order in which the classes will run, and the procedure for two-driver cars.
  - Drivers of cars with mechanical difficulty shall have ten (10) minutes after the car is scheduled to start to present a car at the start line. Drivers may take one (1) mechanical delay per run. For this purpose, a rerun counts as a new run. Grid personnel will be notified of the mechanical difficulty, and will refer the request for a mechanical delay to the Chief Steward in cases where the competitor may gain an unfair advantage by delaying a run. Abuse of this allowance may be considered unsportsmanlike conduct and is protestable under Section 9.1.F.
- E. It is strongly recommended that a Ladies Class not be run in close proximity to its appropriate Open Class. If both classes are running in the same heat, the Ladies Class should be separated by as much time as possible from the appropriate Open Class; however, it is still preferable to run the two classes in different heats whenever possible.

#### 6.9 SCALES

For National Solo® events, the Solo® Department will make provisions to have official scales available for weighing of cars. The location of the scales will be included in the event supplementary regulations and the scales will be available during the event, though not necessarily free of charge.

## 6.10 IMPOUND

All competitors (vehicle with driver or driver's representative) will be impounded with their class after competing until released by the Chief of Impound or an official designee. While in Impound, vehicles in all categories except Modified, Kart Modified, and Formula Junior must have hoods and trunks fully opened. During this time competitors may visually inspect each other's vehicles.

The SCCA® reserves the right of its designated representatives to ensure the compliance of competing vehicles.

All vehicles in classes subject to weight requirements and in trophy positions as determined by the official results will be weighed. If there is any question about compliance with weight requirements, the vehicle will be weighed in both directions.

The Chief of Impound or designated representative(s) may conduct other inspections as allowed by 5.9.

The Chief of Impound will notify the Chief Steward of any non-compliant concerns or irregularities discovered in these inspections, or of any entrants or competitors who do not follow Impound procedures.

## 6.11 PREHEATING TIRES

Pre-heating of tires prior to competition by electrically heated covers or by similar means is prohibited.

# 7. TIMING AND SCORING

#### 7.1 STANDARDS

#### 7.1.1 Timing Standards

Events shall be timed to the nearest one-thousandth (0.001) of a second.

## 7.1.2 Scoring Standards

For a multi-course event, a competitor's score shall be the total of his/her best time on each course. In the event a competitor does not have a time on a course, he/she shall receive a DNF for the event.

#### 7.2 TIMING SYSTEMS FOR NATIONAL SOLO® EVENTS

There shall be at least two (2) operable electronic timing systems per course at the Solo® National Championship. The Chief Steward will establish the timing accuracy between the systems prior to the beginning of the runs. One system will be designated the primary system and all times listed obtained from such system. In the case of a primary system failure, the secondary system shall be used, with appropriate time corrections being made prior to the listing of the times, until the primary system can be activated and utilized. Alternate systems and procedures may be approved by the SEB.

## 7.3 MINIMUM OF THREE RUNS

Each driver shall be allowed at least three (3) official timed runs per course, subject to severe circumstances beyond the control of the event organizers. Reduction in the number of runs offered at the National Championships may be done only with the concurrence of the Chief Steward, Event Chair, SEB Chair, and the Solo® Department. Only the fastest official run per course will be scored.

# 7.4 RERUNS

Reruns will be granted only for timing failure, object on the course, red flag, or other situations at the discretion of the Chief Steward and will not be given because of mechanical or other failure of the competitor's car. A minimum of five (5) minutes must have elapsed before a competitor may take a rerun.

If the Chief Steward or designated representative awards a competitor a provisional rerun, it should be taken as soon as practical, subject to the "five minute rule" above and the discretion of the Chief Steward. The Chief Steward should notify the competitor which run is considered provisional.

Pylon penalties are not carried over to the rerun. A DNF (Did Not Finish) on a run for which a rerun would have been given shall stand and no reruns shall be given.

In the case in which a competitor is red-flagged or stops for a displaced or downed cone on the course, the competitor may continue slowly through the remainder of the course or may exit the course directly and will be granted a rerun if appropriate. Failure to exit the remainder of the course at an appropriately reduced speed (generally 79-80% of competition speed) will result in a DNF for that run. It is important to clear the course in a timely manner

in order to avoid impeding the progress of the car following and ensure the event remains on schedule.

#### **7.5 TIES**

Ties for trophy or point scoring positions shall be broken by comparing the next fastest runs from each course. The times will be combined and then compared to break a tie. If the tie persists, it shall be broken by a runoff, provided both contestants agree. If agreement is not reached, the tie shall stand. The additional run shall be used only to break the tie, and shall not be used to place either contestant in a position other than those tied for.

#### 7.6 LUCK OR CHANCE

Luck or chance, or gimmicks, such as balloon bursting, may not be deliberately included as a factor in judging in National Tour and National Championship events. Regional events may use such gimmicks if that fact is clearly stated in advance publicity and the supplementary regulations for the event.

#### 7.7 SCOREBOARD

A scoreboard must list the driver's name, car number, class, corrected times, and penalties. In National events, the times and penalties for each competitor must be posted prior to the next run of that competitor.

#### 7.8 PENALTIES

## 7.8.1 Course Markers (Pylons)

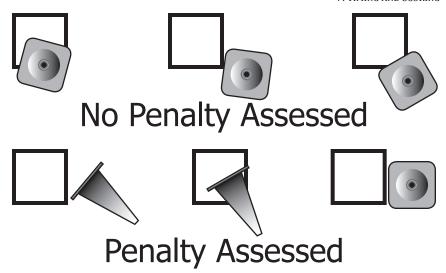
A clearly visible line around the base will mark the location of each pylon. The inner edge of the line will be used to describe the outer edge of the pylon base as accurately as possible. If the pylon is upset or totally displaced outside the line, two seconds will be assessed. At Regional events, local methods for locating pylons may be used. The diagram provided herein should help clarify situations in which penalties should and should not be assessed.

# 7.8.2 Displaced or Downed Pylons on Course

A competitor encountering a downed or displaced pylon on course has the option of continuing the run or stopping as soon as possible, and pointing out the downed or displaced pylon to a course worker. If the competitor stops, he/she must proceed per Section 7.4 and will then be granted a rerun. However, if the competitor completes the run, the time will stand. In the case in which a competitor is red flagged or stops for a downed or displaced cone on the course, the competitor may continue slowly through the remainder of the course, or may exit the course directly, and will be granted a rerun if appropriate. Failure to exit the remainder of the course at an appropriate speed (generally 25-30 mph) will result in a DNF for that run. It is important to clear the course in a timely manner to ensure the event remains on schedule. Reruns for displaced or downed cones after the timing finish line will only be given at the discretion of the Chief Steward.

#### 7.8.3 Course Deviation

A "DNF" or a time penalty, if so specified in the supplementary regulations, shall be charged for any uncorrected deviation from the course, for failing to directly follow the prescribed course route from the stage line through the timing start line, or for unnecessarily delaying the event. A course deviation shall not be charged if any part of the car hits a marker defining the limits of the course. A DNF is charged only if part of the course is omitted. In returning to the course after an off-course excursion, it is acceptable to drive a part of the course a second time.



If the finish trip beam is broken while the front two (2) wheels of the car are off-course, the run will be scored as a DNF. Additionally, if after breaking the finish trip beam a driver causes the finish trip beam to be broken again, stopping the timer for the following driver, the time for the first driver will be scored as a DNF and the second driver may be granted a rerun.

## 7.8.4 Range of Penalties

Any car or driver found to have competed illegally in an event will be penalized. Penalties assessed by the Protest Committee may range from written reprimand and/or time penalties to disqualification (Section 9.4).

#### 7.8.5 Mechanical Did Not Finish

A Mechanical Did Not Finish (MDNF) will be charged to any competitor who completes their run with the physical assistance of another or leaves the driver's seat. This may be shown in the official results as a DNF. A driver may leave the seat to restart a stalled kart without incurring this penalty.

# 7.9 OFFICIAL RESULTS

Official results shall by typed and printed by class and position in class in order of best time, and must include (at least) the driver's name (first and last), hometown, car number, car make, model, year, class, tire manufacturer, Region affiliation, designation of trophy winners, corrected time for each run, and penalty for each run (if any). (Event organizers are encouraged to also include the competitor's sponsors' names.)

The general outcome of protests and appeals at National Tour and the National Championship events shall be included in the official results or published in the official SCCA® publication. For example:

Car #3 HS-Protested for illegal suspension modification. Protest disallowed.

Car #18 AM-DSQ, did not report to impound. Car #6 BSP-DSQ, driver failed to report for required worker assignment.

Official results shall be mailed to the event competitors and the Solo® Department within two (2) weeks after the event. If an appeal has been filed, preliminary results must be mailed within two (2) weeks only to the Solo®

Department. Final official results must be mailed within two (2) weeks of the decision of the Appeals Committee to the event competitors and the Solo® Department.

## 8. PROTESTS

While the right to protest in proper cases is undoubted, it should be remembered that Solo® events are sporting events, to be conducted in a sporting spirit; that all events are organized and managed by amateurs who cheerfully give their time and do their best, that the competitor may expect some imperfections of the organizers and of his fellow competitors; and that, to a reasonable extent, these things are part of the chances he takes in entering the competition.

## **8.1 WHO MAY PROTEST**

The right to protest shall rest with any entrant, driver, or official taking part in the competition in question. Each may protest any decision, act, or omission of the organizers, an official, entrant, driver, or other person connected with the competition, which the protestor believes is in violation of the Solo® Rules, the Supplementary Regulations, or any conditions attached to the sanctioning of the event by SCCA® (hereafter in this Section collectively referred to as "the rules"). A protest against a car is also a protest against its driver and entrant.

#### 8.2 LODGING A PROTEST

A protest shall be made in writing, specifying which Sections of the Solo® Rules or other applicable rules are alleged to have been violated, and signed by one protesting entrant or driver or official. It shall be delivered to the Chief Steward or his designated representative, or to the Chairman (Chief of Protest) of the Protest Committee (PC). If delivered to the Chief Steward, it shall be promptly forwarded to the Chairman of the PC.

#### 8.2.1 Protest Fee

The protest shall be accompanied by a protest fee of \$25 at National Tour events and \$80 at National Championship events. The fee will be doubled for protests against cars (Section 8.3) that are filed after the car is released from Impound on its first (1st) day of competition. The protest fee is waived for protests filed in an official capacity by the Chief Steward.

#### 8.2.2 Time Limits

- A. A protest against a competition vehicle shall be lodged before it is released from Impound on its final day of competition.
- B. A protest against the actions of a driver, entrant, or official during class competition, including a protest against Timing and Scoring, shall be lodged not later than 30 minutes after the class is released from Impound on the day of the suspected violation of the rules.
- C. A protest against the actions of a driver, entrant, or official outside of class competition shall be lodged not later than 30 minutes after the last class is released from Impound on the final day of competition.
- D. A protest filed in an official capacity by the Chief Steward shall be lodged not later than 30 minutes after the last class is released from Impound on the final day of competition, except for a protest resulting from an Impound or Protest Committee inspection. Such protests shall be lodged within a reasonable time after discovery of the suspected violation of the rules.

#### 8.3 PROTESTS AGAINST CARS

Entrants or drivers taking part in a competition may protest a car in the same competition and class as not conforming to the rules. The Chief Steward may protest any car in the competition. The protestor may request that the car be disassembled, inspected, or any other test made, provided he or she posts a cash bond with the PC sufficient to cover the expense of access to documentation, disassembly, inspection and reassembly. A protest may be reduced in scope but not added to at the time the bond is set. Once a bond is posted, the stipulated inspections shall be completed unless the protest is wholly or partially withdrawn by the protestor. The PC shall apportion the costs incurred, including reassembly, up to the point of withdrawal, provided no illegality has been discovered.

#### 8.3.1 Burden of Proof

The entrant of a protested vehicle has the burden of proving that the vehicle conforms to these rules by the required documentation according to the class of the vehicle, and must present the required documentation to the PC at the time that the protest is heard, or else be disqualified.

If the required documentation does not include sufficient information on a protested item or specification, the burden shifts to the protestor to prove the equipment or specification illegal.

#### 8.3.2 Impounding of Protested Cars

Protested vehicles held in Impound must remain there until one hour after announcement of the decision of the PC. If no appeal or intent to appeal has been filed by the end of that period, the car shall be released. If an appeal or intent to appeal is filed, the Appeals Committee shall be given the opportunity to inspect the vehicle before it is released. For cars with multiple drivers, the car shall be released if needed for competition purposes under the supervision of the Chief Steward or their designated representative.

#### 8.3.3 Establishment of Bond

- A. The bond shall be established by the PC after consulting separately with the protestor and the protestee, and with the Chief Technical Inspector and any other experts whose advice the PC believes shall be useful.
- B. Items covered by the bond may be priced individually, with consideration given to possible logical linking of some items. This cost schedule shall be set up prior to initiation of the inspection. The bond may be awarded after teardown on a predetermined apportionment basis. Apportionment of the bond after the fact is not permitted, except where the protestor has withdrawn all or part of the protest.
- C. The bond shall be paid by cash, traveler's check, or approved credit card.
- D. Where the circumstances warrant, the PC may require the protested party to post bond or sign a repair order with a service establishment to cover the costs of access to documentation, disassembly and inspection, in the event judgment goes against him or her. The bond shall be established in the same manner as a protestor's bond.

# 8.3.4 Conduct of Inspection

The inspection and/or disassembly shall be conducted under the supervision of the PC. They shall determine which portions of the inspection and/or disassembly, if any, may be observed, and by whom. The owner or driver of a protested car, or his/her representative, will be allowed to observe the inspection and/or disassembly but shall not interfere in any way. The PC shall

have authority to impose penalties upon finding any additional illegal item(s) during an inspection.

## 8.3.5 Refusal to Allow Inspection

Refusal of an entrant or driver of a protested car to allow inspection under the terms established by the PC shall result in immediate disqualification.

## 8.3.6 Disposition of Bond and Protest Fee

If the car conforms to the rules, the protestor shall forfeit the bond and protest fee. After compliance with 8.3.6 the bond will be paid to the protested party. The protest fee will be retained by SCCA®. If the car does not conform to the rules, the entire protestor's bond and protest fee shall be returned and the protested party shall stand all expenses.

## 8.3.7 Time of Disbursement of Bond; Appeal Escrow

If an Intent to Appeal has been filed, the teardown bond and protest fee shall be sent to the Solo® Department to be held in escrow until the time limit for appeal has passed, an appeal has been rejected (Section 10.5, Decision to Hear Appeal), or an appeal has been finally decided by SCCA®.

#### 8.3.8 Preservation of Evidence

Any recorded evidence such as technical data or inspectors' reports or measurements shall be forwarded to the Solo® National Office. The protest form with disposition of protest, and complete records from the Protest Committee hearing, shall be forwarded to the Solo® National Office. A summary of protest findings will be provided to the event Chief of Timing and Scoring for inclusion in the official event results. The Chairman of PC (Chief of Protest) shall accept any parts found illegal and tendered by the owner for safekeeping pending appeal. The PC shall have the authority to impound parts found illegal until the protest and appeals process is complete.

#### 8.3.9 Notifications

If a penalty is imposed as a result of personal misconduct or unsportsmanlike conduct, the PC Chairman (Chief of Protest) will notify the SEB as soon as possible. The SEB will notify the Senior Director of Rally/Solo® as soon as possible of the penalty, background information, and any appeals to the NAC.

## **8.4 PROTEST COMMITTEE**

The protest should be decided on the day of the event by a PC of at least three members, within a reasonable time following completion of the event. If the protest cannot be decided on the day of the event, the PC must resolve it within 10 calendar days unless agreed to by the parties. The delayed protest decision will be forwarded to both parties of the protest in a mutually agreed method of either e-mail or certified mail. The names of the committee members shall be specified in the supplementary regulations or prominently posted on the day of the event. The Chief Steward or Event Chairman shall not be members of the Committee. For the National Championship event, a PC shall be appointed by the SEB in advance of the event.

#### **8.4.1 Duties**

It is the function of the Protest Committee (PC) to adjudicate protested violations of the SCCA® Solo® Rules in a fair, unbiased, and timely manner. Members of the PC may also be drivers in the same event, but at the National Championships will not perform any other duties than those of the PC. If a protest is received in the same class as a PC member, or if a committee member has some other personal interest in the class affected, he/she must disqualify himself/herself from the protest ruling. This committee may con-

fer with the SEB members present on a protest where the input of the SEB would be deemed necessary. For the National Championship event, the PC may include the Solo® Development Coordinator (SDC) in attendance at the event and/or others as the SEB deems necessary, with the exception of the PC Chairman (Chief of Protest) who shall be appointed by the SEB.

#### 8.5 HEARING OF THE PROTEST

The PC shall hear the protest as soon as practical after the protest is lodged. All parties concerned shall be given adequate notice of the time and location of the hearing. They shall be entitled to call witnesses, but shall state their cases in person. In the absence of a party, judgment may go by default. Each party or witness shall be heard separately or in private. If judgment cannot be given immediately after the hearing, all parties shall be informed of the time and method by which the decision shall be conveyed. (All parties must stay until the end of the hearings.)

#### 8.6 DISTRIBUTION OF AWARDS

- A. Distribution of awards may commence after the period for receiving protests has elapsed. When a protest which would affect distribution of awards has been lodged, distribution of awards for positions which could be affected shall be withheld until the protest has been settled. The PC, if it receives an intent to appeal their decision, shall order awards which may be affected by the outcome of the appeal to be withheld pending the decision of the National Appeals Committee (NAC).
- B. Pending the decision of the NAC, the results of the competition shall be considered provisional.

#### 8.7 JUDGMENT

All parties concerned shall be bound by the decision given, subject only to appeal as provided in Section 10.

# 8.8 REASONABLENESS

It is expected that protests shall be reasonable, logical, and based on sound evidence, thus well-founded. A well-founded protest shall further be defined as one upon which reasonable men or women may differ. A protest may be well-founded even if not upheld.

## 8.8.1 Forfeiture of Protest Fee

If a protest is judged to be not well-founded, the protest fee shall be forfeited.

#### 8.8.2 Vexatious Or Bad Faith Protests

A protestor who has acted in bad faith or in a vexatious manner may be penalized by the PC.

#### 8.8.3 Return of Fee

The fee for a protest that is not upheld but is determined by the PC to be well founded may be returned to the protesting party upon the decision of the PC.

# 9. PENALTIES

All participants shall be subject to control by SCCA®, the organizing SCCA® Region or other organizers, and all appointed officials of the event. This Section provides the penalties for violation of the Solo® Rules and the Supplementary Regulations.

# 9.1 BREACH OF THE RULES

In addition to any other offenses or violations of specific rules each of the following shall be deemed a breach of the Solo® Rules.

- A. Bribery or attempt to bribe anyone connected with the event; and the solicitation of, acceptance of, or offer to accept, a bribe.
- B. Any fraudulent proceeding or act prejudicial to the interests of the SCCA® or of car competition generally.
- Reckless or dangerous driving, either on course or in the pits and paddock.
- D. Failure to obey a direction or order of an official.
- E. Refusing to cooperate with, interfering with, or obstructing the actions of the Chief Steward, the PC, the National Solo® Appeals Committee, or an appointed Appeals Committee in the performance of their duties.
- F. Unsportsmanlike conduct.
- G. Physical violence toward any other participant or spectator at the event.

## 9.2 WHO MAY BE PENALIZED

Any organizer, entrant, driver, crew member, official, worker or guest of the above, or SCCA® member may be penalized. If a car is found to be in violation of a rule and the protest is upheld, the penalty imposed on the protested driver will be applied equally to all drivers of the car in that category even if they were not specifically named in the protest.

#### 9.3 HEARING

No penalty shall be imposed by the PC except after a hearing that follows the procedures set out in Section 8.

#### 9.4 IMPOSITION OF PENALTIES

#### 9.4.1 Penalties

The penalties in increasing order of severity are as follows:

# 9.4.1.1 Reprimand

#### 9.4.1.2 Time or Position

Penalties expressed as addition of time or loss of finishing position may be imposed.

# 9.4.1.3 Disqualification from Competition

Disqualification from competition may be imposed on an entrant, driver, or car.

#### 9.4.1.4 Probation

Probation of SCCA® Solo® competition privileges may be imposed. The probation requires the individual(s) to meet imposed conditions in order to enter any SCCA® Solo® event until such time as it is lifted.

## 9.4.1.5 Suspension

Suspension of SCCA® Solo® competition privileges may be imposed. The suspension prohibits the individual(s) from entering any SCCA® Solo® event until such time such time as it is lifted.

# 9.4.1.6 Expulsion from SCCA®

Expulsion from the SCCA® may be imposed as provided by the SCCA® bylaws.

# 9.4.2 Multiple Penalties

Multiple penalties may be imposed.

#### 9.5 LOSS OF AWARD

Any entrant or driver who is disqualified in any competition shall automatically forfeit all rights to awards in that competition.

#### 9.6 AMENDMENT OF RESULTS

When an entrant or driver is disqualified, the subsequent competitors in the finishing order shall be advanced.

#### 9.7 PUBLICATION

The SCCA® shall have the right to publicize a notice that any person, organization, or car has been penalized and the reasons for the action. Any person or organization referred to in the notice shall have no right of action against SCCA® or against any person for publishing such notice or for its contents.

## 10. APPEALS

## 10.1 RIGHT TO APPEAL

Any person, entrant or organization named as a party to a protest in any SCCA® Solo® event shall have the right to appeal to the National Appeals Committee (NAC) any decision or penalty imposed. In addition the Chief Steward of the event shall have the right to appeal any decision or penalty imposed.

#### 10.2 INTENT TO APPEAL

For a protest decided on the day of the event, a written intent to appeal or a formal appeal accompanied by the appropriate appeal fee shall be submitted to the Chief Steward or Appeals Committee (AC) within one hour after the announcement of a decision on a protest, or the right to appeal is forfeited. For delayed protest decisions, an appeal and appropriate appeal fee must be received by the Solo® National Office within seven (7) calendar days of notification of the protest decision. The time period starts on the date of the return receipt of the certified mail notification of protest decision.

## 10.3 TAKING AN APPEAL

An appeal permitted hereunder shall be taken by filing a written appeal with the Solo® National Office. The notice of appeal shall specify the party or parties making the appeal; shall designate the decision or portion thereof appealed from; shall explain the reason or reasons why the appeal should be heard; and if applicable, which part(s) of the Solo® Rules are considered to have been enforced in a manner that was not fair or equitable to the appellant; and shall be received at the Solo® National Office within ten (10) days after submission of the Intent to Appeal, and shall include the appropriate appeal fee of \$50 payable to SCCA®, Inc. A minimum of \$25 of the appeal fee may be retained to defray expense of hearing the appeal by the SCCA® on all appeals that are filed. The appeal fee is waived for appeals filed in an official capacity by the Chief Steward.

An appeal properly taken hereunder may be withdrawn, without penalty, by written notice to the SCCA®, Inc. prior to the acceptance of the appeal by the NAC. Under Section 10.6, the AC, in their judgment, may decide that the penalty or other decision of the PC or other committee appealed from should be nullified, mitigated, affirmed, increased or a different penalty imposed, but it shall not order a competition to be rerun.

# 10.4 COMPOSITION OF THE NATIONAL APPEALS COM-MITTEE

The purpose of the NAC is to render a final decision in any appeal permitted to be taken under this Section. The NAC will be appointed by the SEB. Members who competed in the same event and class addressed in an appeal, or who have other personal interest in the appeal, must disqualify themselves from participating in the appeal. If fewer than three members are available, then additional people to reach a total of three may be appointed by the SEB to address that appeal. It is the intent of these provisions to provide for resolution of differences before a Committee composed of individuals with individual and collective expertise in Solo® matters.

#### 10.5 DECISION TO HEAR

The NAC will make the final decision whether or not the appeal is well founded and should be heard, and whether the appeal fee should be returned or forfeited. Appeals not received within the specified time limit will not be heard. Said decision shall be final, binding, and not subject to appeal. In reaching this decision, they may review the findings of and documentation provided to the PC, the written appeal, and any other material they deem pertinent. The officials designated herein shall use every effort to make their final decision within seven days of the receipt for the written appeal.

#### 10.6 CONVENING THE APPEALS COMMITTEE

The NAC will determine if it shall hear the appeal or if it will be heard by another AC, which they will appoint. No member of either committee shall have been directly or indirectly interested or involved in the matters under consideration. The Chairman of either committee shall not be a member of the appellant's Region of Record.

# 10.6.1 Hearing The Appeal / National Appeals Committee

The NAC will use its best efforts to hear an appeal within a reasonable length of time from notice to all parties. The method of hearing the appeal will be determined by the NAC.

# 10.6.2 Appointed Appeals Committee

The appointed AC shall be convened in the Division in which the event was held, with due consideration given to the geographical convenience of the parties to the appeal and the members of the committee. The appointment of the committee and written notice to the appellant(s) shall occur within seven days of the decision to hear the appeal. The Chairman of the AC will notify the Chairman of the PC (Chief of Protest) of the appeal.

# 10.6.3 Hearing The Appeal

The appointed AC shall use its best efforts to convene and hear the appeal no earlier than one (1) week from notice to the parties and no later than four weeks from said notice. At a hearing all parties concerned shall be entitled to call witnesses and present, within reason, other evidence of their choice. They may present their case personally, be represented by an advocate, or may submit the case to the committee on documents without personal appearance. The AC may hear such evidence in such manner as it deems appropriate, relevant, and necessary under the circumstances.

#### 10.7 JUDGMENT OF THE APPEALS COMMITTEE

After considering all material they deem relevant, the AC shall meet privately, reach its decision and prepare a written opinion. It may decide that the penalty or other decision of the PC be nullified, mitigated, affirmed, increased or

a different penalty imposed, but shall not order a competition to be re-run. The committee shall order the return or forfeiture of appeal fees. The committee shall direct the disposition of protest fees and teardown bonds, if any, in those cases where the PC decision is nullified.

#### 10.8 PUBLICATION AND EFFECT OF DECISION

The SCCA® will distribute all final NAC decisions, including the names of all parties concerned. Persons, entrants or organizations referred to in each said decision shall have no right or action against SCCA® or any person publishing such notice, and agree that said decision shall be final and binding. SCCA® will use its best efforts to publish said final decisions as soon as possible after finalization. A copy of the final decision of the AC shall be sent to all parties of the appeal as soon as possible after the decision becomes final. Any penalty imposed by the AC shall be effective immediately as stated in its decision. If a penalty is imposed as a result of personal misconduct or unsportsmanlike conduct, the NAC will notify the SEB as soon as possible. The SEB will notify the Vice President of Rally/Solo® as soon as possible.

#### 10.9 BAD FAITH APPEALS

If the committee determines that the appellant has acted in bad faith or in a vexatious manner, it may deem such conduct a breach of the Solo® Rules and impose an additional penalty for said breach.

## 11. AWARDS

- A. Awards shall be given to the highest placed drivers in each class on the following basis unless otherwise provided by supplementary regulations.
  - 1. One (1) award for one to three (1-3) entrants in a class.
  - 2. Two (2) awards for four to six (4-6) entrants in a class.
  - 3. Three (3) awards for seven to nine (7-9) entrants in a class.
  - 4. One (1) additional award for every four (4) additional entrants or fraction thereof (e.g., six (6) awards for 18 entrants).
- B. At the Solo® Nationals, a National Championship award will be given when a competitor competes in a National Championship eligible class which has three (3) or more participants.

# 12. AUTOMOBILE DEFINITIONS

The following definitions shall apply to these Rules regardless of any other definitions or interpretations.

- **active/reactive suspension** An active/reactive suspension is a system in which the weight of the car is carried or assisted by an actively adjustable/programmable medium such as a hydraulic or pneumatic ram.
- **anti-lock braking system (ABS)** An electronically controlled system that can reduce braking force to one or more wheels during deceleration with the goal of preventing wheel lockup when the brakes are applied.
- **automobile (car)** An automobile or car is a self-propelled land vehicle, running on at least four (4) wheels, not in a line, which must be in contact with the ground when at rest.
- **blow-off valve (BOV)** / **pop-off valve (POV)** A device intended to limit maximum boost pressure in the engine inlet system by opening to vent the inlet system to the outside atmosphere when a preset boost value is reached.
- canard A three-dimensional (3D) attachment to the front fascia with air passing over the top and bottom surfaces, which is intended to provide

aerodynamic downforce to the front of the vehicle. Unlike a wing, one (1) edge must be flush to the attachment surface. No portion of a canard may extend vertically above the front fascia/bodywork.

#### car (see automobile)

- **chassis** A chassis is the minimal configuration of a car necessary to contain all of the running gear (drivetrain, suspension, steering, etc.) and to provide support for the body.
- **closed car** A closed car is one with a full roof, a targa top-type car with a full windshield, a T-top-type car with a full windshield, or a convertible with a full windshield and a standard (as defined herein) hardtop which has been bolted securely in place.
- compressor bypass valve (CBV) A device intended to allow a supercharger or turbocharger's compressor output to recirculate back to the supercharger or turbocharger inlet when the throttle plate is closed. The purpose of this recirculation is to reduce boost lag when the throttle plate is reopened. A CBV is referenced to intake manifold vacuum and opens when manifold vacuum exceeds a preset value. It is closed under boost. CBVs installed by OEMs operate as described above. Some aftermarket CBVs vent to the atmosphere, and are marketed as Blow-Off Valves or Pop-Off Valves, although their operation is otherwise identical to the OEM CBVs.
- **driver/passenger compartment** The driver/passenger compartment is the interior area of the car in which original driver control devices and all original seating were/are located.
- drivetrain The combination of components that provide the force that allows the car to move including the engine, clutch, transmission, driveshaft(s), differential(s), axles, etc. This does not include wheels or spindles.
- **floor pan** The floor pan is defined to include all surfaces which would support the driver's or passenger's feet, body, or seat in the original car, extending laterally from (but not including) door sill to door sill and longitudinally from (but not including) front bulkhead to rear bulkhead.
- **frame rails** An integral part of the chassis; frame rails are boxed, channeled, or tubular structural members of the car which may provide attachment points for one or more of the following: subframe/cross member, body, suspension, and drivetrain of the vehicle. Frame rails are present in unibody, tub-based, and tube-frame cars.
- **mid-engine** A mid-engine configuration is defined as one in which the engine is located behind the passenger compartment and in front of the rear axle.
- **model** A group of cars of a given make which have virtually identical bodies and chassis but are readily distinguished from other models of the same make by virtue of a major difference in body appearance and/or chassis design. The names by which the manufacturer designates these groups have no bearing on this definition even though two (2) groups may be designated identically.
- **open car** An open car is a convertible (with or without a full windshield), a car with a retractable hardtop, a targa-top-type car with less than a full windshield, or a T-top-type car with less than a full windshield.
- **roll bar / roll cage** A tubular steel structure designed to provide the passenger compartment with additional crush resistance in the event of an

- accident. A roll bar/cage will always include a hoop behind the driver that provides crush resistance from overhead forces and may additionally include structure that provides crush resistance from other directions. Roll bar/cage structures may be used to provide additional chassis rigidity and attachment for suspension and other components, if preparation rules allow for it. See Appendix C or the Club Racing General Competition Rules for additional requirements & design methodologies.
- **sedan** A sedan is a car capable of transporting four (4) or more averagesize adults in normal seating positions.
- **shock/strut towers** Sheet metal components which are part of a tub or unibody car that provide the top mounting point for shocks and struts and may provide mounting points for other components such as upper control arms. They may also serve as an inner fender liner.
- **solid rear axle** A dependent rear suspension system in which the wheels are mounted at each end of a solid, or undivided, axle or axle housing; includes live axles and beam axles as found on both RWD and FWD cars.
- standard part An item of standard or optional equipment that could have been ordered with the car, installed on the factory production line, and delivered through a dealer in the United States. Port-installed options provided by the manufacturer are considered to be the same as those installed on the factory production line. Dealer-installed options or deletions (except as required by factory directives), no matter how common or what their origin, are not included in this definition. This definition does not allow the updating or backdating of parts.
- **subframe / cross-member** A component welded or bolted to the frame/tub/chassis of a car in order to increase its strength and which may serve as a platform for mounting suspension or drive train components.
- **suspension** The combination of components that connect a vehicle chassis to its wheels. Any item that controls wheel location relative to the chassis and which is designed to move when a wheel is deflected vertically is part of the suspension. This includes shocks/struts, control arms, steering knuckles, uprights, tie rods, live axle housings, etc., but not steering racks, subframes, halfshafts, etc.
- **suspension mount** Components to which individual suspension components attach and which are rigidly attached to the chassis via non-permanent means. With the exception of integral bushings/ bearings, they do not move as the suspension travels in its range of motion. Subframe/cross members are not suspension mounts.
- strut bar A transverse member connecting the upper or lower suspension mounting points at the front or rear of the car. Strut bars may be mounted only transversely across the car from upper left to upper right suspension mounting point and from lower left to lower right suspension mounting point. A two-point strut bar fastens only at the left and right suspension pointing points. A triangulated strut bar has a third area of attachment at the chassis (e.g., at the firewall/bulkhead). All connections to the vehicle must be bolted. No connection point to the chassis can be welded.
- **track** The distance between the centerlines of the wheels as competed without driver, measured as follows: From centerline to centerline of wheels. Alternatively, it may be measured from the inside of one wheel at the hub centerline height to the outside of the other wheel, then conversely from the outside of the first wheel at hub centerline to the

inside of the second wheel. The two dimensions obtained are to be added together and divided by two (2) to obtain the average. Measurements are to be taken at both front and rear of the wheels and averaged to compensate for toe in/out. Wheel rim width shall be measured at the base of the bead seat.

- traction/stability ccontrol (TSC) A system that adjusts engine power, braking force, or torque distribution when wheelspin due to attempted acceleration, understeer, or oversteer is detected or predicted. Conventional limited slip differentials (e.g., viscous, passive clutch, helical/worm gear, locker) are explicitly excluded, but "active" differentials and their controllers are included.
- **trunk area** An area intended for the storage luggage or other items during normal street going usage.

For front-engine cars, this is defined as the area behind the vertical plane of the rearmost seatback of the vehicle. For 2-seat vehicles, this is defined by the vertical plane of the front seats of the vehicle. If a transverse bulkhead/panel is located in this area, the bulkhead/panel defines the start of the trunk area. Vehicles equipped with a fold-down rear sea, must consider the vertical plane of the seat in its upright position.

For rear-engine cars, this is defined as the area in front of the passenger compartment, forward of a transverse bulkhead/panel separating the passenger compartment from the front of the car.

For mid-engine cars, this is defined as both the area per the rear-engine cars, as well as the area behind the engine and separated from the engine compartment by a transverse bulkhead/panel.

- **tub** The assembly of panels which form the basic structure of the vehicle's passenger compartment.
- **tub-based car (non-tube-frame)** A non-tube-frame car has a standard tub or unibody as the central component of the car. A tub-based car may have subframes at either end attached to the tub/unibody by bolts or welds. Full-frame cars in which the tub sits atop frame rails are also considered to be tub-based.
- **tube-frame car** A car whose chassis is fabricated from a non-standard assembly of tubes, welded into the desired configuration, that are designed to carry the running gear (drivetrain, suspension, steering, etc.) loads.
- **unibody (unit-body)** A type of construction in which the chassis and tub are fabricated from an assembly of stressed panels and reinforcements permanently fastened together into a single unit.
- **variable valve viming (VVT)** VVT is any system that dynamically alters the timing of valve events while engine is operating.
- wing area computation The area of a wing element shall be computed by multiplying the maximum chord (straight line distance from leading edge to trailing edge) by the maximum span (width). Curvature of the element (camber) and angle of attack when mounted on the vehicle will not affect the area measurement. The area for multiple-element wings will be the sum of the individual areas of each of the elements.