



## Endurance Racing Regulations

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# Endurance Racing Regulations

- 1. Purpose \_\_\_\_\_ 4
- 2. Administration \_\_\_\_\_ 4
  - 2.1. Rules \_\_\_\_\_ 4
  - 2.2. Entry deadline \_\_\_\_\_ 4
  - 2.3. Car numbers \_\_\_\_\_ 4
  - 2.3. Timing transponders \_\_\_\_\_ 4
  - 2.4. Races shorter than six hours \_\_\_\_\_ 4
  - 2.5. Races of six hours or longer \_\_\_\_\_ 4
  - 2.6. Licenses and fees \_\_\_\_\_ 5
  - 2.7. Entry fees \_\_\_\_\_ 5
  - 2.8. Illegal entries \_\_\_\_\_ 5
  - 2.9. Declaration \_\_\_\_\_ 5
  - 2.10. Pit spaces \_\_\_\_\_ 5
  - 2.11. Drivers' meeting \_\_\_\_\_ 5
- 3. Technical Eligibility \_\_\_\_\_ 5
  - 3.1. Eligible cars \_\_\_\_\_ 5
  - 3.2. Technical inspection \_\_\_\_\_ 5
  - 3.3. Class legality \_\_\_\_\_ 6
  - 3.4. Fuel tanks / cells \_\_\_\_\_ 6
  - 3.5. Car substitution \_\_\_\_\_ 6
  - 3.6 Night racing \_\_\_\_\_ 6
- 4. Classes \_\_\_\_\_ 7
  - 4.1 General Classification \_\_\_\_\_ 7
  - 4.2 Specific Classifications – Class Mapping \_\_\_\_\_ 7
  - 4.3 Other car classifications \_\_\_\_\_ 10
- 5. Format \_\_\_\_\_ 10
  - 5.1. Grid \_\_\_\_\_ 10
  - 5.2. Race length \_\_\_\_\_ 10
  - 5.3. Race finish \_\_\_\_\_ 10
  - 5.4. Starting Order \_\_\_\_\_ 10
  - 5.5. Leaving hot pits \_\_\_\_\_ 10
  - 5.6. Red flags \_\_\_\_\_ 11
  - 5.7. Repair on course \_\_\_\_\_ 11
  - 5.8. Full course yellow \_\_\_\_\_ 11
- 6. Scoring \_\_\_\_\_ 11
- 7. Safety \_\_\_\_\_ 11
- 8. Pitlane / Pitstops / Refueling \_\_\_\_\_ 12
  - 8.1. Pit space \_\_\_\_\_ 12
  - 8.2. Refueling \_\_\_\_\_ 12
  - 8.3. Pit speed limit \_\_\_\_\_ 13
  - 8.4. Fuel spills \_\_\_\_\_ 13
  - 8.5. Refueler attire \_\_\_\_\_ 13
  - 8.6. Illegal safety equipment \_\_\_\_\_ 13

8.7. During refueling	13
8.8. Refueling rigs	14
8.9. Fuel storage	14
8.10. Fire hazards	14
8.11. Tire changes	14
8.12. Refueling methods	14
8.13. Pitlane	15
9. Penalties	15

# Endurance Racing Regulations

For all endurance races.

**Note: Check local supplemental rules for each event.**

## 1. Purpose

1.1. The purpose of this series is to provide manufacturers and race car builders a chance to showcase their products, and team owners to a chance to compete in a professional endurance racing series.

1.2. The competitors may be required to make themselves available, periodically, to the spectators while at the race track. Therefore, the drivers and teams must display exemplary and professional conduct at all times. Pit crew members shall be wearing matching uniforms. Driving suits or professional, clean, presentable clothing is required for all personal appearances.

## 2. Administration

### 2.1. Rules

All NASA Club Codes and Regulations (CCR) apply with the exception of those superseded by this document and /or any applicable supplemental rules. Additionally, all local and event-specific supplementary rules supersede these rules wherever there is a conflict.

### 2.2. Entry deadline

Generally the deadline for entry is 12 days in advance (postmarked or faxed). Entries after the dead line may be accepted; however a late charge may apply. Any entry may be refused at any time if the car presented at the track does not meet these regulations. Additionally, the NASA administration reserves the right to limit entries or refuse any individual entry, with or without cause.

### 2.3. Car numbers

~~Car numbers will be assigned to teams in this order: 1) Teams with a NASA assigned permanent number and entered at least 12 days in advance. 2) on a first come, first serve basis.~~ Car numbers must be extremely legible and of a contrasting color. For endurance races that run into darkness, a small light such as those used to illuminate license plates above the car number will help Timing and Scoring see the car number, as will reflective car numbers. Remember that it is even harder to see a car number at night. If Timing and Scoring cannot see the car number even once, the missed lap will not be scored. Three digit car numbers are not allowed.

### 2.3. Timing transponders

Timing transponders are used for Timing and Scoring. Each team is required to obtain the proper transponder from NASA Registration before the start of the race. Two transponders are required for the 25 Hours of Thunderhill Raceway.

### 2.4. Races shorter than six hours

Teams must have a minimum of two drivers. One driver may drive the entire race, but must enter as both drivers and pay the minimum entry fee of a two-driver team. All drivers must be NASA members and registered for the event. All crewmembers must be registered and display any required wristbands or issued credentials, if applicable. Access to hazardous areas such as the pit lane will be limited to registered crewmembers and drivers that have the required wristbands or issued credentials, and meet the requirements listed in the CCR.

### 2.5. Races of six hours or longer

Teams must have a minimum of two drivers. All drivers must be NASA members and registered for the event. All crewmembers must be registered and display the required wristbands or issued credentials, if applicable. Access to hazardous areas such as the pit lane will be limited to registered crewmembers

and drivers that have the required wristbands or issued credentials, and meet the requirements listed in the CCR.

## **2.6. Licenses and fees**

All drivers must possess a currently valid NASA Competition License or Provisional License.\* Driver's with licenses from other recognized sanctioning bodies should contact the national office to obtain a NASA license. Call 510-232-6272 for more information.

\* Some races may not allow Provisional License holders.

## **2.7. Entry fees**

The Team Captain (team owner) is responsible for paying all of the fees and submitting all of the proper paperwork.

Entry fees for the races will be announced in the marketing literature, on the web site: [www.nasaproring.com](http://www.nasaproring.com), and / or listed in the Supplementary Rules and Regulations

## **2.8. Illegal entries**

If any person is found to have driven a car on course that is not properly registered, all drivers of that car will be subject to disciplinary action by NASA. Minimum penalty shall be exclusion from the event. Exclusion from the event may be accompanied by loss of finishing position and prize money.

## **2.9. Declaration**

Each team must declare their team name, a class, and a Team Captain (team owner) on their entry form when registering. Each Team Captain may only apply their season points to one team entry. If a team name is not declared on their entry form, the team will be viewed as a new independent team.

## **2.10. Pit spaces /Markings**

Pit space assignment may use an undisclosed system. NASA may mark and number pit spaces on the pit lane. Competitors will not mark the track property. Each team is responsible for their own space and its maintenance. **Any tape applied to any surface MUST be removed immediately after the race. Failure to do so will result in penalties to the team.**

## **2.11. Drivers' meeting**

There will be a mandatory meeting for all drivers and crew. There may be roll call. Drivers (or a team representative) not present may be disqualified or assigned latrine duty at the Race Director's discretion.

## **3. Technical Eligibility**

### **3.1. Eligible cars**

All closed wheel race cars and sports racers, with adequate safety equipment, may be allowed, subject to approval of the event administration. All cars must display at least one NASA decal on each side of the car and one in the front and one in the rear. No other current sanctioning body stickers are allowed, except INEX and 600 Racing. Note: INEX Thunder Roadsters and Legends are considered to be closed wheel cars.

### **3.2. Technical inspection**

All cars must go through a technical inspection on or before the posted time. Safety requirements must be met as per the NASA *Club Codes and Regulations* (CCR). The Race Director or Event Director may make allowances for cars from other recognized sanctioning bodies, provided that they meet the requirements of that sanctioning body. Entrants will be required to show proof of compliance with the safety rules listed for their class, before an allowance will be made. It is the driver's responsibility to

ensure the car meets safety standards and other NASA rules, or obtain an allowance from the Race Director or Event Director.

### **3.3. Class legality**

3.3.1. Cars (as represented) must meet their respective class' technical rules, except that all cars may run any D.O.T. approved tires that fit on the mandated wheel size for their class (unless otherwise specified). ES and ESR cars may also use non-D.O.T. approved race tires (i.e. slicks) on any wheels. Legends cars must run the spec tire for their class.

3.3.2. All cars must meet the minimum listed weight for their class. All enduro weights will be measured without driver. Any weight listed in a competitor's class rule book, which includes the driver, will be used to set the minimum weight for the car, less 180 pounds. [For example, if a car's class rule book specifies a minimum weight of 2580 pounds (with driver), the enduro weight would be 2400 pounds minimum. If there is any question as to the required weight, the team owner must contact the NASA national office at least one week before the start of the event for clarification.

### **3.4. Fuel tanks / cells**

The Race Director reserves the right to impose certain requirements on those cars with gas tanks (or fuel cell) significantly larger than originally equipped. Teams that have installed tanks (or fuel cells) larger than stock, and are entered in E0, E1, E2, or E3 class, may be required to drain the tank and fill it with the same amount of fuel that the original stock tank held. Additionally, teams are cautioned that modifying or substituting the OEM tank can be illegal in some class rules; and could also be deemed a safety hazard. No vehicle may have more than two fuel tanks and/ or cells. No vehicle may carry more than forty four (44) gallons of fuel at any given time.

### **3.5. Car substitution**

A team may substitute another car before the start of the race, provided it has passed tech inspection and has been approved by the Race Director.

3.5.1. If there was a timed session on track to determine qualifying order, then the substituted car must start in the back of the whole field. Alternatively, they may be allowed to start in the back of their respective class providing: 1) it is a split grid based on class, and 2) the Race Director approves.

### **3.6 Night racing**

3.6.1. If the race may run past dusk, brake lights (as usual), headlights, and taillights are mandatory per the CCR. It is highly recommended that each car have at least two headlights, two taillights, and two brake lights. In the event that one light fails, the car will not be black flagged providing, that there is at least one sufficiently working light of each type. Note- Lights per these rules apply to classes that don't require lights, such as Legends, some sports racers, etc.

3.6.2. Any number of additional driving lights may be added to the car providing that they illuminate in the forward direction. However, if the Race Director deems any lights to be excessive and/or a hazard, the car may be black flagged. In this situation the team will have three choices when pitted: 1) The offending lights must be removed, or 2) the team can retire from the race, or 3) the Race Director will disable the offending lights by whatever means necessary that is agreeable to the team.

3.6.3 Roof-mounted lights are not allowed.

3.6.4 Using colored lights to identify the team's car at night is permitted providing that the lights and colors do not confuse other drivers (e.g. no white light to the rear). No flashing or blinking lights are allowed.

## 4. Classes

### 4.1 General Classification

The Event Chairman is responsible for classifying all cars. [Note: Almost any car can be classified into one of the existing classes. Visitors from other sanctioning bodies are encouraged to participate.] For a classification, contact the NASA office. There are six regular classes: E0, E1, E2, E3, ES, and ESR. All other class (E0, E1, E2, E3) are mapped below. ALL teams **MUST** declare a class (with sanctioning body) for their car. This means a class independent of the NASA endurance series (i.e. PS1, Pro7, SM, ITS, T1, EP, etc.). The NASA administration will classify each car based on its regular class.

Note- All class references pertain to the most current year rules, unless otherwise stated. Also, most classes were remapped (for 2010) to improve competition and account for the most recent advances in some of the non-endurance classes.

### 4.2 Specific Classifications – Class Mapping

Class	Organization	Class	Comments
944-Spec	NASA	E3	
AI	NASA	E0	
AIX	NASA	ES	
AM	BMW CCA	ES	
AS	SCCA	E0	American Sedan
ASC	NASA	ES	
BM	BMW CCA	ES	
BSR	NASA	E1	Boxster Spec
C	NASA	E3	MINI Challenge-C
CM	BMW CCA	ES	(correction 1/21/10)
CMC	NASA	E2	
CMC2	NASA	E1	
CS	NASA	E2	MINI Challenge-CS
DM	BMW CCA	ES	(correction 1/21/10)
EF	BMW CCA	ES	
EM	BMW CCA	ES	
EP	SCCA	E0	On DOT tires; otherwise ES
FFR	NASA	<del>ES0</del>	
FFR	NASA	E1	<i>Prepared to rules 2011 and older</i>
FP	SCCA	E0	On DOT tires; otherwise ES
GP	SCCA	E1	On DOT tires; otherwise ES
GS	Grand Am	ES	
GS1	Grand Am	ES	2003 or earlier
GS2	Grand Am	E0	2003 or earlier
GT1	SCCA	ES	
GT2	SCCA	ES	
GT3	SCCA	E0	
GT4	SCCA	E1	On DOT tires; otherwise ES
GT5	SCCA	E1	On DOT tires; otherwise ES

GTA	SCCA	ES	
GTI Cup	NASA	E3	
GTS1	NASA	E2	
GTS2	NASA	E1	
GTS3	NASA	E0	
GTS4	NASA	ES	
GTS5	NASA	ES	
HC1	NASA	E0	
HC2	NASA	E1	
HC3	NASA	E2	
HC4	NASA	E3	
HC5	NASA	E3	
HP	SCCA	E3	On DOT tires; otherwise ES
HP	BMW CCA	E0	
HS	BMW CCA	E1	
IP	BMW CCA	E0	
IS	BMW CCA	E1	
ITA	SCCA	E3	
ITB	SCCA	E3	
ITC	SCCA	E3	
ITR	SCCA	E1	
ITS	SCCA	E2	
JP	BMW CCA	E1	
JS	BMW CCA	E2	
KP	BMW CCA	E1	
KS	BMW CCA	E2	
Legends	INEX	E2	Must use spec tires & 5 gal tank
LP	BMW CCA	E2	
LS	BMW CCA	E3	
MP	BMW CCA	E2	
MS	BMW CCA	E3	
MX5 Cup	SCCA	E1	
NC	SCCA	E3	Neon Cup
PCTCC	NASA	E3	
PRC (all)	NASA	ES	
PRC-GTS	NASA	E0	
Pro7	NASA	E3	
PS0	NASA	E1	
PS1	NASA	E2	
PS2	NASA	E3	
PS3	NASA	E3	
PS7	NASA	E3	
PTA	NASA	E0	Tires used determine PT tire points assessment (see 25 Hour Supps)



PTB	NASA	E0	Tires used determine PT tire points assessment (see 25 Hour Supps)
PTC	NASA	E1	Tires used determine PT tire points assessment (see 25 Hour Supps)
PTD	NASA	E2	Tires used determine PT tire points assessment (see 25 Hour Supps)
PTE	NASA	E3	Tires used determine PT tire points assessment (see 25 Hour Supps)
PTF	NASA	E3	Tires used determine PT tire points assessment (see 25 Hour Supps)
RS	SCCA	E1	Cal Club
SER	NASA	E3	Nissan SE-R Cup
SF	NASA	E3	Spec Focus
SGS	Grand Am	ES	
SM	NASA/SCCA	E3	Spec Miata
SM	BMW CCA	ES	
SN	NASA	E3	Spec Neon
SP	SCCA	ES	
Spc Boxter	PCA	E1	
Spc Boxter	POC	E1	
Spec E30	NASA	E3	
Spec E36	NASA	E1	
Spec E36	BMC CCA	E1	
Spec Z	NASA	E0	
Spec7	SCCA	E3	
SR	POC	E1	Boxster
SRX	NASA	E0	Nissan SE-R Cup - Extreme
SSB	SCCA	E3	
SSC	SCCA	E3	
ST	Grand Am	E0	
ST1	NASA	ES	Super Touring
ST2	NASA	ES	
ST3	NASA	E0	
<i>STL</i>	<i>SCCA</i>	<i>E0</i>	<i>Pending evaluation for E1 in 2015</i>
SU	NASA	ES	
T1	SCCA	ES	
T2	SCCA	E0	
T3	SCCA	E1	
TR	INEX	E2	Thunder Roadster (w/ OEM fuel tank)
Trans Am	SCCA	ES	
USTCC	NASA	E1	
WCGT	SCCA	ES	World Challenge GT
WCT	SCCA	E0	World Challenge
WCGTS	SCCA	E0	World Challenge

**Notes:**

ES and ESR (sports racers):

ES and ESR cars are unlimited in the range of speed modifications, but must have adequate safety equipment for their speed potential. Check with the NASA office before the race. Anyone

not familiar with NASA's Endurance Series classifications should call the National Office: 510-232-NASA.

*Sports racers are prohibited from running in ES. Additionally, to qualify as an ESR vehicle, it must have been originally built to an organization's class that defines it as a sports racer. If the vehicle is homebuilt, the participant must clarify his / her entry with the local NASA office.*

#### **4.3 Other car classifications**

Most other cars will fit into one of these six classes. Call the NASA office 510-232-6272 or email [nasaregy@yahoo.com](mailto:nasaregy@yahoo.com) for specifics.

#### **4.4 Air Jacks / jacking systems**

The use of any device other than a manual jack(s) or a manually operated hydraulic jack to raise the car is prohibited in E0, E1, E2, and E3 classes.

### **5. Format**

#### **5.1. Grid**

Grid will close when the pace car leaves. Late cars must start in the back of the entire field, or may be held to start the pit lane at the discretion of the Reentry Steward or Race Director.

#### **5.2. Race length**

The actual race length may vary and will end at the predetermined time of day or may run a specified length. The Race Director will determine the exact length and the end time before the start of the race. However the Race Director reserves the right to make adjustments in the race length should unforeseen circumstances present themselves. It is the competitor's responsibility to get the applicable information from the Race Director as to the duration of the race. The official clock will start when the pace car takes the course for the warm-up lap(s) (unless otherwise noted per event).

#### **5.3. Race finish**

The overall leader will be shown the checkered flag at the finish line as soon as possible after the official race time has elapsed. There is normally no "last lap" indication given by the Starter.

#### **5.4. Starting Order**

5.4.1. The Race Director will choose a starting method to determine the starting order. Methods are unrestricted, and include: gridding based on season points (or reverse), a qualifying session, car number, alphabetical, etc.

5.4.2. The starting method, as determined by the Race Director, cannot be questioned or disputed. Failure to obey this rule will result in a minimum penalty of being placed last on the grid. However, a competitor or team's representative should notify the Race Director if there is an error in their assigned starting position based on the chosen starting method. For the purposes of this section, "starting method" means any format or system used to determine the starting order. Note: Late entries may inadvertently affect that team's starting position, depending on the starting method chosen. Adjustments in the starting order will not be made due to late entries, unless the starting method specifically provides for such adjustments.

#### **5.5. Leaving hot pits**

Cars may be held leaving the hot pits when the pace car is on track. Stewards will hold cars leaving the hot pits so that they are placed at the end of the pack during pace laps. The stewards may hold a car until the pack comes by, if they feel that the car cannot catch the end of the pack before reaching the incident.

## **5.6. Red flags**

In case of a red flag situation, all work on cars in the pits, including refueling, must be stopped. Cars that choose to pit during a red flag situation, will lose their position, and will not be allowed to enter the paddock until the course is returned to green. Cars already in the paddock when a red flag condition is announced may continue to work on their vehicles; but cannot return to the hot pit lane or track until the race resumes under yellow, pace laps, or the green flag is displayed (whichever is applicable).

## **5.7. Repair on course**

Cars may be repaired on the course in a safe location at the discretion of an Official or with the approval of the Race Director.

## **5.8. Full course yellow**

The pits will be “closed” during full course yellows. Once the last turn station, before the pit entrance, displays the double yellow flags (or by any other defined indication), the pit lane will then be “closed.” If a car enters the pit lane during a full course yellow situation, the driver has three options:

- A. Proceed to the paddock and work may be performed (unless prohibited by an official, due to the course condition changing to “Red Flag”).
- B. Park in the team’s pit space and do nothing until the end of the full course yellow. The driver may not exit the car (unless due to an emergency or instructed to do so by an official) and the team shall not work on the car.
- C. Continue through the pit lane and rejoin the field at the end of the pack.

## **6. Scoring**

6.1. The total number of laps completed, whether or not the car is running at the end of the race, will determine finishing position. If two cars have the same number of laps completed, the one that crossed the line first will be scored ahead.

6.2. Provisional results may be announced at the track along with trophy presentation. Results are not official until marked as such and published by the NASA office.

6.3. Season points will be awarded as per the CCR. The teams are NOT allowed to drop any races from their season points, unless otherwise posted from the NASA office. Races that are six hours and longer will be scored as double points. Note: The regional administration may modify this rule.

6.4. Cars that do not complete at least half of the laps accomplished by the leader in their class will not be considered a “finisher,” however they will be given half the points of the last place finisher in their class.

6.5. Cars that are penalized a certain number of laps resulting in a tie for the number of laps completed will be scored ahead of the teams that actually did that number of laps. In other words, the tie will go to the penalized team. If two or more teams are penalized a certain number of laps that results in two or more of them scored as a tie, then they will be placed in the same order in which they were before any penalties were assigned.

## **7. Safety**

7.1. All teams possessing compressed gas bottles must comply with the rules as listed in the CCR. Violations of this section will result in harsh penalties, up to and including, ejection from the event. Compressed gas cylinders must remain behind the pit wall at all times while the event is in operation .

7.2. Any car that is too slow, as deemed by the Race Director to be a hazard, may be black flagged.

7.3. All drivers are reminded of the rules and responsibilities of making a safe pass. Endurance races are very long races and risky passes are ill advised. See rules regarding “passing” in this publication.

7.4. Fluid leaks that cause slick track conditions will not be tolerated. A car may be excluded from the remainder of the event if the leak persists.

7.5. Team owners are reminded that use of ethylene glycol based coolant/anti-freeze is illegal. Red Line Water Wetter type additives are allowed.

7.6. A jackstand(s) must be placed under the car whenever a person is under the car. Boards must be placed under all loaded jackstands.

7.7. Reckless or negligent behavior by any driver or crewmember causing damage to themselves, equipment, pit surface, track, or other drivers' equipment or persons, can result in harsh penalties. **If a crewmember is injured during a pit stop the team is automatically disqualified and the entire team may be ejected from the event & may be permanently ejected from NASA. Teams are reminded to work very carefully.**

7.8. Paddock speed limit is 5 mph (unless otherwise published). Failure to comply will result in harsh penalties. Standard penalty is one lap (or one minute time penalty, if using that system).

7.9. Pets of any kind, for any reason, are not allowed in the pit lane during the race. The team responsible will be penalized. Seeing eye dogs for the blind are an exception.

7.10. Minors are not allowed in the pit lane. Exceptions to this rule may only be granted under the rules listed in the CCR, and with the approval of the Race Director, or Regional Director.

7.11 "Crew" helmets are allowed and encouraged. There are no current specifications or requirements regarding crew helmets. All crew helmets should be marked with the word "CREW" on the back. This rule does not in anyway supersede driver and refueler helmet requirements.

## **8. Pitlane / Pitstops / Refueling**

### **8.1. Pit space**

All competitors are required to keep two gallons of water, at least one 5 lb. or larger ABC rated fire extinguisher (with a gauge indicating fully charged), and at least 5 pounds of oil absorbent in their pit space. Each team must have their own pit space for each team car that will pit at the same time. Each team's separate pit space must meet the requirements for equipment (i.e fire extinguisher, water, etc.) No sharing of required equipment, such as fire extinguishers, is permitted between pit spaces, even for the same team, unless the team is willing to limit themselves to having only one team car pit at a time. The team owner will be held responsible for any damages to the track, pits, or paddock.

### **8.2. Refueling**

**8.2.1. For endurance races of six hours and greater (This section is not applicable to ES and ESR):** There are no required timed pit stops, and no minimum number of stops. No more than 10 gallons of gas from two NASA approved\* standard 5-gallon plastic fuel containers may be put in the car during any pit stop. The containers may not be refilled during a pit stop and put in the car (i.e. if the team has two containers half full, that is all they can put in during that stop). Note- Six gallon (or other) containers, sold as "5-Gallon" fuel containers are NOT legal.

**8.2.2. For all classes: All refueling must be done in the pitlane once the race has started. Any team caught refueling in any location other than the pit lane will suffer a 10-lap penalty (or 10 minute stop and go, if using that system), at the discretion of the race director.** All teams must mark their gas cans with their car numbers using legible numbers at least **2 inches high**.

**8.2.3. For endurance race less than six hours:** There are no required timed pit stops and no minimum number of stops. Each team is required to dump at least one five-gallon can of gas into their car during the race (except for ES and ESR cars- no requirements). All teams must mark their gas cans with their car number using legible numbers at least **2 inches high**. Any team failing to meet the specified fuel requirements will be penalized 10 laps (or a ten minute time penalty will be added, if using that system).

**8.2.4. (This section is not applicable to ES and ESR):** All refueling must be done using NASA approved\* 5-gallon containers, which must be labeled “FUEL,” “GASOLINE,” “PETROL,” or “GAS.” All gas containers shall remain capped when not in use. The cap may include a hose if the hose is capped when not in use. Shutoff valves are considered to be a legitimate cap. Fuel container vent hoses of less than 3/16<sup>th</sup> inside diameter need not be capped. Vent lines of larger diameter must be capped or “pinched off” to prevent spillage.

Note- “approved standard 5-gallon plastic fuel containers” are shown in Appendix A.

### **8.3. Pit speed limit**

The speed limit in the pit lane is 25 mph unless otherwise stated. There may be a stop sign and/or chicane(s) in the pit lane entrance. Excessive speed may result in penalties.

### **8.4. Fuel spills**

Refueling is a big issue during pit stops. Spills will not be tolerated. All cars must place a large catch-pan, or matt to catch all accidental spills. All catch pan spills must be returned to closed containers. A gasoline spill will result in a five-lap penalty (or a five minute penalty, if using that system).

### **8.5. Refueler attire**

Refuelers must wear safety equipment equivalent to the driver (except head neck restraint) as per the CCR (i.e. Nomex suit, gloves, shoes, and helmet) during refueling. There is no limit to the number of refuelers provided that each is donning the proper attire. All over-the-wall crewmembers in contact with any fueling device or catch pan will be considered another refueler and subject to proper attire. All refuelers with open faced helmets must wear a balaclava (head sock) while refueling whether they have any facial hair or not.

8.5.1 Exception to the refueler’s helmet requirement: Refuelers may, utilize a Snell SA90, SA95, or SA2000 rated helmet, for refueling providing that it is clearly and permanently marked with the word(s) “FUEL,” in bright orange, in a manner so as to make the helmet easily identifiable from both sides and the back. Tape is NOT considered “permanent” within the scope of these rules. All other helmet rules apply. Standard crew helmets commercially manufactured for auto racing may be used for refueling providing a balaclava is worn and eye protection is used. This is an example of a legal crew helmet: <http://www.ogracing.com/g-force-pro-crew-helmet>

### **8.6. Illegal safety equipment**

All helmets found in the pitlane at anytime must meet the requirements listed for racing drivers listed in the CCR (exception- see rule 8.5 of this publication). All participants are reminded of the CCR rule that states (in part) “If, at any time, illegal, non-conforming, or outdated safety equipment is found, the equipment (in its entirety) will become the property of NASA.” This rule will be strictly enforced on every piece of equipment and helmet that is found in the pitlane whether it was intended for use or not. The helmet rule applies to the refueler as well (exceptions- see rules 7.11 and 8.5 of this publication).

### **8.7. During refueling**

8.7.1. No work may be performed on the car while it is being fueled. The team may change drivers and/or clean windows and lights while refueling. Removing tape from lights is considered to be cleaning them. Taking tire temperatures, measuring tire pressure, etc is considered to be working on the car. Work performed on the car while refueling at the request of, or ordered by, a NASA official is permitted (such as repairing or replacing a transponder / transponder battery). Note: The intent of this rule is to ensure that the drivers and crews over the wall at the time of refueling remain alert and vigilant for any flash fires resulting from fuel spills. Connection / disconnection, and / or installation of driver aids such as seat inserts, changing batteries or memory card on cameras, radios, GPS, cool suits, helmet blowers, coolers, water tubes, belts, seat adjustment, seatback support adjustment, steering wheel changes / tilt wheel, reset tachometers and other gauge / sensor resets, and adjusting mirrors are allowed, providing that all work takes place in the cockpit of the vehicle.

8.7.2. During refueling, at least one crewmember must hold a fire extinguisher and be ready to put out a possible fire while other crewmember(s) refuel the car. It is recommended that the person holding the fire

extinguisher be wearing the same safety equipment as the refueler, but it is not required. It is recommended that the person manning the fire extinguisher remain at least seven (7) feet away from the refueler(s) so as not to be engulfed in any flash fires that may occur.

### **8.8. Refueling rigs**

Refueling rigs, where allowed (i.e. ES and ESR class) will be subject to inspection and approval by the NASA officials. The use of any refueling rig that is deemed to be unsafe may be disallowed. All refueling rigs must be securely anchored. Refueling rigs can only be used to refuel ES and ESR class cars.

### **8.9. Fuel storage**

**8.9.1. Fuel storage:** More than five 5-gallon gas containers (containing any fuel) in any one team's pit space is prohibited (unless special permission is granted by the Race Director, e.g. the team's car takes 30 gallons per stop).

**8.9.2. All 55-gallon drums** (sealed or unsealed), containing any amount of fuel, are prohibited in the pit lane unless they meet one of the following exceptions. Exception 1) The 55-gallon drum is an integral part of a legal and approved refueling rig used exclusively to refuel ES and ESR cars. Exception 2) The 55 gallon drum is secured to a support vehicle, cart, hand truck, etc. and is temporarily brought into the pit lane for the sole purpose of replenishing a legal and approved refueling rig used exclusively to refuel ES and ESR cars. Under no circumstance will a team be allowed to replenish their refueling rig while the same refueling rig is being used to refuel any car.

**8.9.3.** Under no circumstances shall a 55-gallon drum be allowed on the "hot side" of the pit wall, unless special circumstances prevail and only with the permission from the Race Director. Under no circumstances shall a 55-gallon drum be used to fuel any car, gas can, etc. unless specifically allowed by these rules or with permission from the Race Director.

**8.9.4** No fuel will be stored in the hot pit lane or on top of the hot pit wall. A crewmember(s) must be in physical control of any fuel cans on the wall or over the wall at all times.

**8.9.5** Fuel is not allowed over the wall until the car comes to a stop. This includes fuel jugs and refueling rig hoses. Fuel cans cannot be placed on top of the wall until the car comes to a stop.

### **8.10. Fire hazards**

No smoking or open flames is allowed in the hot pits. The Race Director must approve any repairs that may create a fire hazard (e.g.. welding, grinding). No heaters of any kind are allowed in the pit lane without the approval of the Race Director. [Intent: Electric oil filled, self-contained "radiator style" heaters may be approved, however most heaters that have exposed heating elements (glowing red) will not likely be approved.]

### **8.11. Tire changes**

**8.11.1.** Teams may only change one tire per pit stop in the hot pits. Additional tire changes must be done in the paddock area. **These tire rules (8.11.1. and 8.11.2.) do not apply to ES and ESR cars.**

**8.11.2.** Rotating tires is permitted providing that all tires on the car when it leaves the pit stop were the actual tires that were on the car when it came in for that same stop. Mixing of *rule 8.11.1 and 8.11.2* is NOT allowed. [For example: A team cannot rotate the left side tires (front to rear), then change one right side tire. In any given pit stop a team may change one tire, OR may rotate any of the tires, but not both.]

### **8.12. Refueling methods**

**8.12.1.** ES and ESR cars may use any safe method of refueling (i.e. NASCAR dump cans or IMSA type overhead refueling). All classes except ES and ESR (unless otherwise specified) must use standard approved\* 5-gallon plastic gas cans with a funnel or hose to refuel, and are restricted from using quick fill methods such as those used in NASCAR, etc. The entire weight of the 5-gallon containers must be supported by the refueler(s) during refueling. No device(s) that distributes any of the weight (of the gas containers) to anything but the legal refueler(s) is allowed.

**8.12.2.** All classes (except ES and ESR) are prohibited from using any type of "(re)fueling rig" or "quick fill method." The definition of "(re)fueling rig" or "quick fill method" (for the sake of prohibition) is refueling an E0, E1, E2, or E3 class car using any of the following items: Gas containers other than the standard approved\* 5-gallon plastic gas cans, specialized nozzles (aircraft), "Dry Breaks" (Nextel Cup / Grand

Am), fuel pumps (of any type), electric power tools, wheels (for any purpose), support stands (see rule 8.13), or other devices deemed, by the Race Director, to be outside the spirit and intent of these rules. [Note: This is not to discourage developing more efficient refueling techniques and procedures working within these guidelines.] The use of hoses; funnels; clamps; PVC & ABS fitting, valves, and pipes; threaded connectors; roofing supplies; various plumbing supplies; and most similar items found at a local hardware store are generally allowed.

Note- "approved standard 5-gallon plastic fuel containers" are shown in Appendix A.

### 8.13. Pitlane

8.13.1. The pitlane shall remain clear at all times. This means that crewmembers must stand either behind the pit wall or against the trackside wall until their car is in the hot pit lane. No one except officials and authorized media will be allowed to stand in the lane unless their car ~~is in the pit~~ *has entered the pitlane starting at the location of the invocation of the speed limit.*

8.13.2. Only crewmembers, officials, and authorized media are allowed to be at the trackside pit wall. Crewmembers will only be allowed to remain at the trackside wall for the purpose of signaling their driver. Spectating from the trackside pit wall is not allowed. Additionally, no one is allowed to be in the hot pit lane or near the trackside wall until after the initial green flag has been displayed and all of the cars have made it past the first corner. The NASA officials reserve the right to clear the wall or ask individuals to vacate their positions when deemed necessary; with only so much notice to the crewmembers as time allows.

8.13.3. Entry to the paddock from the pitlane during the enduro may be controlled or restricted. For some enduros, paddock entry from the pitlane will be made from the forward most entryway (nearest to the head of the pitlane). It is the competitor's responsibility to check with the Race Director for specific instructions at each event.

8.13.4 There is no limit to the number of crewmembers over the wall during a pit stop. However, each person over the wall must be there to perform a function. In other words, there is no spectating from the hot pit lane. Note- crewmembers may be "over the wall" as soon as their car enters the pitlane.

## 9. Penalties

The intent of the section is to provide teams with an idea of the standard penalties for the most common infractions. These are guidelines for the officials to use. This section does not guarantee these penalties will be issued exactly as written. The NASA officials reserve the right to increase, decrease, or modify any of these penalties as they see fit to best handle each particular situation. NASA tries to maintain a fair and consistent standard of penalties, however not every situation is exactly the same and may require more lenient or more harsh penalties. Any penalty issued by a NASA official may be appealed to the Race Director by following the proper procedures found in the *Club Codes and Regulations (CCR)*.

NASA uses one of two basic systems (unless otherwise specified). 1) Penalties issued after the race by subtracting laps. 2) Timed stop and go penalties for each infraction. The system implemented may be announced at the driver's meeting, and will not change for the length of that race. This means that the **system** of penalties (i.e. either loss of laps, or timed stop and go) will be the same for everyone. However, the Race Director still reserves the right to adjust the severity of each penalty if warranted. If no system is stated at the driver's meeting then, system #2 will be used (Timed stop and go). To keep things simple, any penalty that lists "laps" can be applied to the "timed stop and go" system (#2) by substituting the word "minute(s)" for the word "lap(s)." (e.g. a 5-lap penalty translates to a 5-minute penalty, if using system #2). [Note: If system #2 is used and it's too late in the race to issue the full time penalty, then the race results will be adjusted to penalize that team the assigned time penalty, plus 30 seconds. Additionally, the Race Director may impose fines if necessary]

### 9.1. Administration:

1. Unexcused absence from the driver's meeting may result in gridding last or be excluded and/or disqualified. Other penalties may apply.
2. Failure of a driver to properly register before going on track will result in ejection and disqualification of the entire team.

3. Crewmembers failing to obtain the proper wristband and / or other credential may result in that person's exclusion from the event.
4. Failing to have the car properly teched (or signed off) by a NASA tech inspector may result in a \$50 fine and possibly other penalties.
5. Failing to properly obtain and/or install a timing transponder may result in a black flag, and will result in a lack of scoring.
6. Failure to properly affix readable car numbers may result in a black flag, and will result in a lack of scoring.
7. Failing to pit after being shown two open black flags, accompanied by a sign displaying the team's car number, will result in the loss of credit for subsequently completed laps. [Note: There are no acceptable excuses for missing two black flags displaying the team's car numbers. The penalty can be appealed to the Race Director, however the word of the Course Official will prevail over the word of the competitor. If there were extenuating circumstances, it will be up to the team to provide proof (i.e. in-car video).
8. Any driver that was black flagged and pitted, but failed to report to the Black Flag Station (usually at the head of the pit lane), will cause the team's car to held from returning to competition until the driver that received the black flag reports to the Black Flag Station.
9. Any driver that fails to pit after receiving two mechanical ("Meatball") black flags accompanied by the team's car number will cause the Race Director to do any one or more of the following: 1) Notify the team. 2) Notify Timing and Scoring to stop scoring the offending car. 3) Monetarily penalize the team, compounding the penalties for every extra lap that their car remains on the track.

## 9.2 Safety

1. General safety violations not listed will result in a minimum of a \$50 fine.
2. Spilling fuel in the pitlane will result in a five lap (or 5-minute stop and go) penalty.
3. Working under a car without jackstands will result in a one lap (or 1-minute stop and go) penalty.
4. Use of Ethylene Glycol based products in the radiator will result in a \$50 fine.
- 5. If a crewmember is injured during a pit stop the team is automatically disqualified and the entire team may be ejected from the event and may be permanently ejected from NASA.**
6. Speeding in the paddock will result in at least a one lap (or 1-minute stop and go) penalty.
7. Slightly speeding in the pitlane may result in a warning for the first time and a one lap (or 1-minute stop and go) penalty for each repeat offense.
8. Excessive speeding in the pitlane will result in at least a one lap (or 1-minute stop and go) penalty.
9. Refuelers failing to wear proper attire during refueling may result in penalties ranging from a warning to a one lap (or 1-minute stop and go) penalty for each offence.
10. Smoking, open flames, unapproved welding, grinding, etc. will result in at least a \$50 fine.
11. Illegal helmets found in the pitlane will become the property of NASA in their entirety.
12. Any drivers or refueler caught using an illegal helmet will be fined \$50 and the helmet will become the property of NASA in its entirety.
13. Performing work on a car stopped on course in a hazardous area will result in a \$50 fine AND a one lap (or 1-minute stop and go) penalty minimum.
14. Failing to properly man a fire extinguisher during a refueling stop will result in a one lap (or 1-minute stop and go) penalty.
15. Working on the car while refueling may carry a penalty of at least one lap (or 1-minute stop and go).

## 9.3. On Track Conduct:

1. Pass under double standing yellow will result in a zero-time stop and go penalty, issued after the resumption of the green flag.
2. Pass under single standing yellow will result in a 1-minute stop and go penalty, issued during green flag conditions. The Race Director may lengthen the time if necessary.
3. Passing under waving yellow: 2-minute stop and go. The Race Director may lengthen the time if necessary.
4. Over-driving a waving yellow (i.e. too fast): (without emergency personnel present) 10-second stop and go. The Race Director may lengthen the time if necessary.
5. Over-driving a waving yellow (i.e. too fast, losing control): (reported by on-scene emergency personnel) Ranging from a 10-minute stop and go, minimum; to expulsion from the event, depending



upon the severity as judged by the emergency personnel on scene. The Race Director may lengthen the time if necessary.

6. Yellow flag violations with incident causing damage: Any incident, causing any damage to any car including the offender's car, in a section of track under control of any local yellow flag, will result in the immediate disqualification of the offender's team entry. The Race Director may add to, or modify, this penalty if warranted. Track surface conditions will be taken into account. [Note of caution: If there was also a surface condition flag being displayed for that section of track, then there may be no leniency given.]
7. Yellow flag violations with incident causing injury: Any incident, causing any injury to any person including the offender, in a section of track under control of any local yellow flag, will result in the immediate and permanent ejection of the offender from NASA. Additionally, the offender's team will be disqualified from event. The Race Director may add to, or modify, this penalty if warranted. Track surface conditions will be taken into account. [Note of caution: If there was also a surface condition flag being displayed for that section of track, then there may be no leniency given.]
8. **Passing and Body Contact** (cars of the same class): This section **supersedes** all corresponding sections in the CCR pertaining to passing and body contact, and it is in force only for issues between cars of the same class. These races are a test of endurance and risky passes are ill advised and could be considered reckless. Therefore, it is the intention of the series Race Director to place some emphasis on the responsibilities of the car being overtaken. This means that both drivers share almost an equal responsibility when passing occurs regardless of the relative car positions. Therefore, in the event of body contact, both drivers could be found to share fault, and both may be black flagged, held for a stop and go time penalty, disqualified, and /or otherwise penalized. Cars in the same class, fighting for position will be allowed to carry on their battle providing that: 1) Each maintains awareness of the location of the other by adequate use of their mirrors. 2) Each driver operates his/her car with adequate control, so as to minimize the risk of body contact. 3) Each must drive with consideration for the other by leaving adequate racing room. 4) Neither driver should block or impede the other. Note CCR rule: "The overtaken driver should be aware that he/she is being passed and must not impede the pass by blocking. A driver who does not watch his/her rear view mirror or appears to be blocking [or impeding] another car seeking to pass may be black flagged and /or penalized." [Note: This section does not imply that a driver cannot defend their line.]
9. **Passing and Body Contact** (between cars of different classes): This section **supersedes** all corresponding sections in the CCR pertaining to passing and body contact, and it is in force only for issues between cars of different classes. It is every driver's responsibility to identify which cars are in their class. In the endurance racing series, cars of different classes can have significant differences in closing speeds. It is the responsibility of BOTH the overtaking and overtaken driver to assure safe passing at racing speeds. A car traveling alone may use the full width of the track. However, if it is overtaken by a faster car, the driver must give way to the overtaking car. Passing may be either right or left depending on the conditions of the moment. Therefore, either or both drivers involved in body contact may be black flagged, held for a stop and go time penalty, disqualified, and /or otherwise penalized.
10. Drivers are reminded to review the blocking rules found in the CCR. Any driver that is found to be illegally blocking will cause their team to be penalized. Blocking can be hard to prove without the use of in-car tape. Therefore, it is highly recommended that each team install a video camera in their car.

#### 9.4. Miscellaneous:

1. Changing more than one tire per stop (except in classes where tire changing is unrestricted) will result in a two lap penalty, per tire in excess of the allowed. (or a stop and go of 2-minutes per tire in excess of the allowed).
2. Failure to use the proper fuel container(s) may result in penalties ranging from a \$50 safety violation fine to disqualification for non-compliance.
3. Refueling in any area other than the pitlane (when applicable) will result in a 10 lap penalty (or a 10 minute stop and go). The Race Director may increase this penalty, depending on the circumstances, to try an ensure fairness in competition.
4. Not meeting fuel stop requirements will result in at least a 10 lap penalty (or a 10 minute stop and go). The Race Director may increase this penalty, depending on the circumstances, to try to ensure fairness in competition.

5. Failing to comply with the pit space requirements (e.g. proper fire extinguisher, two gallons of water, etc.) will result in one warning per season. This warning is not on a per item basis. Any one item found missing after the warning has been issued will result in penalties. After a team has been warned once during the season the penalty will be one lap per missing item (or a stop and go of 1-minute per missing item).
6. Failing to use boards under loaded jackstands will result in a one lap penalty (or a 1-minute stop and go). Additionally, the team will be billed for any damage to the asphalt.

#### 10.0 Supplemental Rules

Each team is responsible for any and all applicable Supplemental Rules. Supplemental Rules supersede these rules where there's a conflict.

# Appendix A

## A1.0 Intent

It is the intent of this section to further clarify rules regarding “NASA approved standard 5-gallon plastic fuel containers,” and associated allowances under these rules, for all applicable classes (e.g. not ESR and ES).

## A2.0 Approved Containers

NASA approved containers are limited to “5-gallon containers” shown below. These containers might hold slightly more than 5 gallons, as they come from the factory. Note- no modifications are allowed to increase the capacity of these cans.



LEGAL CONTAINER REGARDLESS OF BRAND



LEGAL CONTAINER REGARDLESS OF BRAND

## A2.0 Additions / Modifications for Legal Containers

From section 8.12.2 of this rulebook, *“The use of hoses; funnels; clamps; PVC & ABS fitting, valves, and pipes; threaded connectors; roofing supplies; various plumbing supplies; and most similar items found at a local hardware store are generally allowed.”* The intent of this rule is to encourage creativity and inexpensive development of faster and/or safer ways to refuel. This adds one more factor in the list of strategic elements of this sport, and it’s one of the best features of this series.

**A3.0 Examples of Illegal Containers**



NOT LEGAL CONTAINER REGARDLESS OF BRAND



NOT LEGAL CONTAINER REGARDLESS OF BRAND



NOT LEGAL CONTAINER REGARDLESS OF BRAND

#### **A4.0 Other Containers**

There are no other legal containers, other than the two shown in section A2.0 of this rulebook. However, there can be a onetime allowance made for those using unmodified (and with no additions) 5-gallon gas containers, commonly used for lawn and garden machines. This allowance can only be made on a case by case basis and is up to the Race Director in charge. The intent of this rule is to allow those that show up with these containers to use them, providing they offer no competitive advantage solely in the opinion of the Race Director.



TECHNICALLY ILLEGAL BUT MAY BE ALLOWED ON A CASE BY CASE BASIS