



Endurance Racing Regulations

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Endurance Racing Regulations

1. Purpose

The purpose of this series is to provide manufacturers and race vehicle builders a chance to showcase their products and team owners the chance to compete in an endurance racing series.

2. Administration

2.1. Vehicle numbers

Vehicle 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 vehicle number are permitted and will help Timing and Scoring see the vehicle number, as will reflective vehicle numbers. Three-digit vehicle numbers are not permitted.

2.2. Timing transponders

Each team is required to obtain the proper transponder(s).

2.3. Licenses and fees

All drivers must possess a currently valid NASA Competition License or Provisional License.* Drivers with licenses from other recognized sanctioning bodies should contact their regional office for more information.

* Some races may not allow Provisional License holders.

2.4. Entry fees

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

2.5. Unauthorized drivers

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

2.6. 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.

2.7. Pit spaces / Markings

Competitors will not mark the track property with any type of permanent marking such as paint. 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.**

3. Technical Eligibility

3.1. Eligible vehicles

All closed-wheel racecars and sports racers, with adequate safety equipment, may be permitted to enter, subject to approval of the event administration. All vehicles must display at least one NASA decal on each side and one in the front and one in the rear. No other current sanctioning body decals are permitted, except INEX and 600 Racing. Note: INEX Thunder Roadsters and Legends are considered to be closed-wheel vehicles. ESR class vehicles are purpose-built sports racers and Prototype (e.g DP, LMC, Radical, etc.). ESR vehicles are not eligible to enter the ES class.

3.2. Technical safety inspection

~~The Race Director or Event Director may make allowances for vehicles 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 team owner's responsibility to ensure the vehicle 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. ~~ESR, ES, E0, E1, E2, and E3 classed vehicles (as presented) must meet their respective Super Touring class technical rules. E3S and ENP classed vehicles must meet their respective class rules. Except that all vehicles may run any D.O.T. approved tires that conform to the mandated wheel size for their class (unless otherwise specified). ES and ESR vehicles may also use non-D.O.T. approved race tires (e.g. slicks) on any wheels. E0, E1, E2, E3 or vehicles are not permitted to use non-D.O.T. tires.~~

3.3.2. All vehicles must meet the minimum listed weight for their class. All enduro weights are measured without driver. Any weight listed in a competitor's class rulebook, which includes the driver, will be used to set the minimum weight for the vehicle, less 180 pounds. [For example, if a vehicle's class rulebook specifies a minimum weight of 2580 pounds (with driver), the enduro weight would be 2400 pounds minimum.]

3.3.3 ES, E0, E1, E2, and E3 may only use tire types and sizes permitted in the Super Touring series rules. ENP must use the spec tire as per the NP01 series rules. E3S must use the spec tires and sizes of their respective series. ESR is an unlimited tire class.

3.3.4 Super Touring Car Classification forms for E0, E1, E2, and E3 MUST be submitted to the Enduro Series leader before the start of the race. Failure to submit required forms will result in re-classing to ESR.

3.4. Fuel tanks / cells

3.4.1 If a fuel cell is installed, the OEM tank, if applicable, must be removed.

3.4.2 ~~Vehicles in E0, E1, E2, E3, and E3S must start with no more fuel than the OEM tank(s) holds or a maximum of eighteen (18) gallons, whichever is less.~~

3.4.3 No vehicle may have more than two fuel OEM tanks or more than two fuel cells.

3.4.4 No vehicle may be capable of carrying more than forty four (44) gallons of fuel at any given time.

3.4.5 The following requirements apply to E0, E1, E2, E3, and E3S.

3.4.5.1 The term "filler hose(s)" in this section refers to those attached to the vehicle.

3.4.5.2 Filler hoses must be secured at each connection point with either a threaded connection or double hose clamps.

3.4.5.3 Filler hoses must take the most direct path between the tank opening and the filler neck.

3.4.5.4 The OEM fuel tank must be removed if a fuel cell is installed.

3.4.5.5 Only one fill point is permitted on the vehicle.

3.4.5.6 Only one five-gallon can may be used to refuel the vehicle through the single fill point, at any given time.

3.4.5.7 A single external (to the fuel tank or fuel cell) container that fuel is stored in, or moves through, (e.g. swirl pots, vent cans, surge tanks, etc.) may be used, and that container shall not have a capacity greater than 1.5 liter (0.4 gallons). The container must be constructed of aluminum or stainless steel, with threaded fittings to stainless steel braided fuel hoses. It must be separated from the driver's compartment by a separate bulkhead. Any container over 1.5 liters (0.4 gallons) is considered to be another fuel cell and subject to fuel cell requirements.

3.5 Fuel tanks / cells are limited to one vent, which must be no larger than one (1) inch in diameter. All non-OEM vents must have a check-valve or "rollover" valve to impeded fuel leakage.

3.6. Vehicle substitution

A team may substitute another vehicle before the start of the race, provided ~~it the vehicle~~ the vehicle has passed tech inspection, ~~the team has submitted a Super Touring Car classification form and the substitution has been approved by the Race Director.~~ NOTE* Timing and Scoring will need to be notified of any car number and/or transponder number change.

3.6.1. If there was a timed session on track to determine qualifying order, then the substituted vehicle must start in the back of the whole field. Alternatively, they may be permitted 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.

3.7 Night racing

3.7.1. If the race may run past dusk, brake lights headlights, and taillights are mandatory. It is highly recommended that each vehicle have at least two headlights, two taillights, and two brake lights. In the event that one light fails, the vehicle will not be black flagged providing, that there is at least one sufficiently working light of each type.

3.7.2. Any number of additional driving lights may be added to the vehicle providing that they illuminate in the forward direction. However, if the Race Director deems any lights to be excessive and/or a hazard, the vehicle may be black-flagged. Any offending lights must be permanently disabled or removed. Note-special lighting rules apply to the 25 Hours of Thunderhill; see the event supplementary regulations.

3.7.3 Roof-mounted lights are prohibited.

3.7.4 Using colored lights to identify the team's vehicle 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 permitted, with the following exception. Any NASA approved or mandated flashing light for use by stalled drivers as a warning to other drivers (e.g JAWS) *and any brake/rain light(s) that blink under braking.*

4. Classes

4.1 General Classification

There are ~~seven~~ **eight** regular classes: E0, E1, E2, E3, ES, **E3S**, ENP, and ESR. ~~All classes are mapped below.~~ ALL teams **MUST** declare a class ~~(with sanctioning body)~~ for their vehicle. ~~This means a class independent of the NASA endurance series (e.g. PS1, Pro7, SM, ITS, T1, EP, etc.). The NASA administration will classify each vehicle into the endurance class based on its regular class.~~ **Except for E3S and ENP, all vehicle classing must be done through the [NASA Super Touring Series rules](#) for classing of the vehicle. E3S will utilize their respective classing (SM, SE30, 944 Spec). ENP shall use the NP01 class rules.**

4.2 Specific Classifications – Class Mapping

Class	Organization	Class	Comments
SU	NASA	ESR	
ST1	NASA	ES	
ST2	NASA	ES	
ST3	NASA	E0	
ST4	NASA	E1	
ST5	NASA	E2	
ST6	NASA	E3	
	NASA	E3S	Spec Enduro Challenge (SM, SE30, 944 Spec)
	NASA	ENP	Nasa Prototype (NP01)
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)
CMG	NASA	E2	
CMC2	NASA	E1	
CS	NASA	E2	MINI Challenge-CS
DM	BMW-CCA	ES	(correction 1/21/10)
E46	NASA	E1	
EF	BMW-CCA	ES	

Elise Cup PB-R	FIA	E0	DOT Tires Only
EM	BMW CCA	ES	
EP	SCCA	E0	On DOT tires; otherwise ES
FFR	NASA	E0	
FFR	NASA	E1	Prepared to rules 2011 and older
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	DOT Tires Only
GTS2	NASA	E1	DOT Tires Only
GTS3	NASA	E0	DOT Tires Only
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
NP-01	NASA	ENP	Must use spec tire
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	E0	
PTA-F	NASA	→	See NASA-ST-Rules
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	
Spec-Baxter	PCA	E1	
Spec-Baxter	POG	E1	
Spec-3	NASA	E1	
Spec-E30	NASA	E3	
Spec-E36	BMC-CCA	E1	
Spec-E46	NASA	E1	

Spec-Racer	SCCA	E1	
Spec-Z	NASA	E0	
SpecZ	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	
ST4	NASA	E0	
ST5	NASA	E1	
STL	SCCA	E0	
SU	NASA	ES	
T1	SCCA	ES	
T2	SCCA	E0	
T3	SCCA	E1	
T4	SCCA	E3	
TR	INEX	E2	Thunder Roadster (w/ OEM fuel tank)
Trans-Am	SCCA	ES	
USTCC	NASA	E1	Touring Class only
WCGT	SCCA	ES	World Challenge
WCGT Cup	SCCA	ES	World Challenge
WCGTS	SCCA	ES	World Challenge
WCGTSA	SCCA	ES	World Challenge
WCT	SCCA	E0	World Challenge
WCTC	SCCA	ES	World Challenge
WCTCA	SCCA	E0	World Challenge
WCTGTA	SCCA	ES	World Challenge
WTCR	SCCA	ES	World Challenge

Notes:

~~ES and ESR (sports racers):~~

~~ES and ESR vehicles 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.~~

~~ENP must run NP-01 vehicle prep rules. Pit stop rules are the same as ES and ESR (e.g. four-tire changes, fueling rigs, etc.)~~

~~4.3 Other vehicle classifications~~

~~If the vehicle isn't found in the mapping section of this publication, the entrant should refer to the NASA ST/SU rules or request that the NASA National Office make a new mapping.~~

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 vehicle is prohibited in E0, E1, E2, E3 and E3S classes. Also note that any vehicles in E0, E1, E2, E3, or E3S that has one of these jacking systems, whether used or not, are likely in violation of their regular class rules.

5. Format

5.1. Grid

Pre-rid closes when the pace car leaves. Late vehicles 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 adjust 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 vehicle 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 flag stand as soon as possible after the official race time has elapsed. There is normally no "last lap" indication given by the Starter. Note- not all finish lines are directly in front of the finish flag stand.

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, vehicle number, alphabetical, etc.

5.4.2. The starting method, as determined by the Race Director, cannot be questioned or disputed. 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.

5.5. Leaving hot pits

Vehicles may be held leaving the hot pits when the pace vehicle is on track. The stewards may hold a vehicle until the pack comes by, if they estimate that the vehicle cannot catch the end of the pack before reaching the incident.

5.6. Red flag

In case of a red flag situation, all work on vehicles in the pits (hot pits and cold pits), including refueling, must be stopped. Drivers that choose to pit during a red flag situation, will lose their position, and will not be permitted to enter the paddock until the course is returned to green. Teams may continue to work on vehicles that were in the paddock before the course went red, however must not return to the hot pit lane or track until the green flag is displayed at the starters' stand.

5.7. Repair on course

Vehicles 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 are “closed” during full course yellows. Any team already in the pitlane during a full course yellow may continue working on their vehicle. Once the last manned turn station, before the pit entrance, displays the double yellow flags (or by any other defined indication), the pitlane will then be “closed.” If a vehicle enters the pit lane during a full course yellow situation, the driver has two options:

~~A. Proceed to the paddock where work may be performed.~~

A. Park in the team’s pit space and do nothing until the green flag is displayed at the starters’ stand. The driver may not exit the vehicle (unless due to an emergency or instructed to do so by an official) and the team shall not work on the vehicle.

B. Continue through the pit lane and rejoin the field at the discretion of the re-entry marshal based on safe-release conditions.

6. Scoring

6.1. The finishing position will be determined by the total number of laps completed, whether or not the vehicle is running at the end of the race. If two vehicles have the same number of laps completed, the one that crossed the line first will be scored ahead. If two vehicles breakdown on the same lap, then vehicle that completed the most distance since the green flag will be awarded to higher finishing position. “Distance” is measured from the starting line and does not include the length of the grid or differentials in grid starting positions.

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 permitted 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.~~ Season point values follow the defined structure in the CCR.

6.4. Vehicles 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 breaker 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. Compressed gas cylinders must remain behind the pit wall at all times while the event is in operation. ~~Use of person-mounted gas cylinders (e.g. SCUBA tank, etc.) for powering a pneumatic tool is permitted providing each cylinder only powers one tool at any time. Cylinders must be carried or mounted upright. Only the crewmember wearing the mounted cylinder may operate the tool attached.~~

7.2. 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 may be disqualified.

7.3. Minors are not permitted 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.

7.4 “Crew” helmets are permitted and encouraged.

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 BC or ABC rated fire extinguisher (with a gauge indicating fully charged), and at least 5 pounds of oil absorbent in their pit space. CO2 and Halon / Halatron are highly recommended as they do not leave a mess to clean up. Additionally, if Dry Chem or Sodium Bicarbonate is used, there are chemicals such as vinegar that can be kept on hand to remove such chemicals.

Sharing of required equipment, such as fire extinguishers, is not permitted between pit spaces, even for the same team. The team owner is responsible for any damages to the track, pits, or paddock.

8.2. Refueling

8.2.1. This subsection is not applicable to E0, ES, ENP, and ESR. Each team is required to dump the contents of at least one NASA approved five-gallon can of fuel into their vehicle during the race. The contents of two (2) NASA approved 5-gallon containers may be put into the vehicle during any pit stop. The containers may not be refilled during a pit stop and put into the vehicle (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.

8.2.1.1 This subsection is only applicable to E0. Each team is required to make no less than 2 separate pit stops for fuel during any race designated as 3.5hrs or less. Any race designated as 6hrs will require no less than 4 separate pits stops for fuel. Each team is required to dump the contents of at least one 'full' NASA approved five-gallon can of fuel into their vehicle during each mandated pit stop. Fuel containers may not be refilled during a pit stop and put into the vehicle (i.e. if the team has only 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. This subsection is not applicable to ES, ESR, and ENP. All refueling must be done using NASA approved* 5-gallon containers, which must be labeled "FUEL." All fuel 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 3/16th inside diameter need not be capped. Vent lines of larger diameter must be capped or "pinched off" to prevent spillage.

8.2.3 Methanol fuel is not permitted.

8.2.4 Teams are permitted one (1) 55-gallon drum in their paddock space at any given time. Additional barrels of fuel may be stored in the area designated by track personnel.

8.2.5 Fuel storage in the cold pitlane is prohibited, except for refueling rigs, or as permitted by these rules.

8.2.6 A standard carpet mat made for wiping shoes when entering a building is not considered a refueling device. It may be placed on the ground before the vehicle enters the pit box but must be removed after the vehicle leaves. Fire extinguish are not considered refueling equipment.

8.2.7 Refueling begins as soon as any refueling device crosses over the pit wall. Items for refueling may be placed on the pit wall (or on the flooring covering the pit wall) once the vehicle enters the pitlane. The vehicle must be stopped before any refueling item may be brought over the wall, or taken from the wall, into the hot pit lane.

8.2.8 Refueling has ended when all implements of fuel handling (cans, jugs, hoses, catch/vent cans, or spill trays, etc.) are behind the cold pit wall.

8.2.9 Teams are NOT permitted to perform any work on the vehicle during refueling. Teams may change drivers during refueling.

8.2.10 All refueling during a pit stop must be performed as the first task in that stop. If a team works on the vehicle then wishes to add fuel, they must complete a lap, then pit for fuel. ~~All four tires must be in contact with the ground while refueling.~~

~~8.2.9.2 Use of power tools that exert mechanical or physical force, pressure, energy, etc. are prohibited during refueling. Examples of prohibited tools: electric and air powered drills, saws, impact guns, etc. Examples of what is permitted: tire pyrometers, hand tools, radios, electronics, etc.~~

~~8.2.9.3 Tightening / loosening lug nuts, including a center nut and/ or "knockoffs" is prohibited while refueling.~~

8.2.11 No more than eight (8) personnel may be over the wall during refueling including any drivers. Once all refueling equipment is behind the pit wall, any number of needed personnel may be over the wall provided that each person serves a function (e.g. spectating, operating cameras, etc. is prohibited).

8.2.12 All E0, E1, E2, E3, E3S NASA approved refueling cans must use a clear filler hose. When “full” the fuel may be in the neck of the can, but not above the filler neck (e.g. not showing in the hose).

8.2.14. 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 vehicle. The person manning the fire extinguisher must remain seven (7) to ten (10) feet away from the refueler(s) so as not to be engulfed in any flash fires that may occur.

8.3. Refueling equipment

8.3.1. ES, ESR, and ENP vehicles may use any safe method of refueling (i.e. NASCAR dump cans or IMSA type overhead refueling).

8.3.1.1 E0 cars may use a dry break valve (male) Redhead – 1.75” probe with 1.50” hose barb, 1.25” I.D. Bore. *Dry break / hose must be attached to a NASA approved 5-gallon container. See appendix A.*

8.3.2. All classes (except ES, ESR, ENP) 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, E3, ENP, and E3S class vehicle using any of the following items: Fuel containers other than the standard approved* 5-gallon plastic fuel cans, specialized nozzles (aircraft), Non-approved “Dry Breaks” (Nextel Cup / Grand Am), fuel pumps (of any type), electric power tools, wheels (for any purpose), support stands or other devices deemed, by the Race Director, to be outside the spirit and intent of these rules. 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 permitted, unless otherwise restricted.

8.3.3 Pressurizing fuel containers or systems are not permitted in E0, E1, E2, E3, and E3S.

8.3.4 Creating negative pressure (vacuum) in the fuel tank or cell is prohibited.

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

8.4. Careless Handling of Fuel

All fuel collected in a pan or overflow container must be returned to a fuel can. Careless handling of fuel will result in harsh penalties. Spilling fuel is considered careless handling, even if it spills into a catch pan or mat on the ground. Careless handling of fuel may occur at any time, not just during a pitstop. Fuel that is captured in an overflow container or normal overflow from the vehicle while exiting the pit space is not necessarily considered careless handling.

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 wearing the proper attire. All over-the-wall crewmembers in contact with any fueling device or catch pan is 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 SA95 (or newer) rated helmet, for refueling. 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 for auto racing.

8.6. Fire hazards

No smoking or open flames is permitted 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 permitted 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.]

8.7. Tire changes (applicable to E0-E3S)

8.7.1. Teams may only change one tire per pit stop in the hot pits.

8.7.2. Rotating tires is permitted providing that all tires on the vehicle when it leaves the pit stop were the actual tires that were on the vehicle when it came in for that same stop. Mixing of *rules in section 8.10* not permitted. [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.]

8.8. Pitlane

8.8.1. 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 vehicle is in the hot pit lane. No one except officials and authorized media is permitted to stand in the pitlane unless their vehicle has entered the pitlane starting at the location of the invocation of the speed limit.

8.8.2. Only crewmembers, officials, and authorized media are permitted to be at the trackside pit wall. Crewmembers are only permitted to remain at the trackside wall for the purpose of signaling their driver. Spectating from the trackside pit wall is prohibited. Additionally, no one is permitted 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 vehicles have passed the first corner.

8.9. Pit speed limit

The speed limit in the pit lane is 25 mph.

9. Suggested penalties

NASA uses one of two basic systems. 1) Penalties issued after the race by subtracting laps. 2) Timed stop and go penalties for each infraction. 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.

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 pit after being shown two open black flags, accompanied by a sign displaying the team's vehicle number, will result in the loss of credit for subsequently completed laps.

9.2 Safety

1. Spilling **or careless handling of** fuel in the pitlane will result in a five lap (or 5-minute stop and go) penalty.
2. Working under a vehicle without a jackstand(s) will result in a one lap (or 1-minute stop and go) penalty.
3. Speeding in the paddock will result in at least a one lap (or 1-minute stop and go) penalty.
4. Speeding in the pitlane will result in at least a one lap (or 1-minute stop and go) penalty.
5. 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.
6. Smoking, open flames, unapproved welding, grinding, etc. will result in at least a \$50 fine.
7. Failing to properly man a fire extinguisher during a refueling stop will result in a one lap (or 1-minute stop and go) penalty.
8. Working on the vehicle while refueling may carry a penalty of at least one lap (or 1-minute stop and go).
9. Unauthorized refueling in a location other than the pitlane during the race, including when the track has been "red flagged" will result in a ten lap (or a 10-minute stop and go) penalty.

9.3. On Track Conduct:

1. Pass under double standing yellow will result in a two-lap penalty (or 2-minute stop and go) issued after the resumption of the green flag.
2. Pass under single standing yellow will result in at least five lap or 5-minute stop and go penalty, issued during green flag conditions.
3. Passing under waving yellow: at least a ten-lap penalty (or a 10-minute stop and go).
4. Over-driving a waving yellow (i.e. too fast): (without emergency personnel present)- at least a twenty-lap penalty (or a 20-minute stop and go).
5. Over-driving a waving yellow (i.e. too fast, losing control): (reported by on-scene emergency personnel) will result in a minimum of 30 lap penalty (or 30-minute stop and go) in addition to excluding the offending driver from the remainder of the event
6. Yellow flag violations with incident causing damage: Any incident, causing any damage to any vehicle including the offender's vehicle, in a section of track under control of any local yellow flag, will result in the immediate disqualification of the offender's team entry. Track surface conditions will be taken into account.
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. Track surface conditions will be taken into account.
8. **Passing and Body Contact** In a passing situation both drivers must share the road and must not make moves to impede a pass. This does not alleviate the responsibility of the overtaking driver as referenced in section 25.4.1 of the CCR.

9.4. Miscellaneous suggested penalties:

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 permitted. (or a stop and go of 2-minutes per tire in excess of the permitted).
2. Refueling in any area other than the pitlane (when applicable) will result in a 10-lap penalty (or a 10 minute stop and go).
3. Not meeting fuel stop requirements will result in at least a 10-lap penalty (or a 10-minute stop and go).
4. Failing to comply with the pit space requirements (e.g. proper fire extinguisher, two gallons of water, etc.) will result in a \$50 fine per missing or insufficient item.
5. Failing to use boards under loaded jackstands on any asphalt surface 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.

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. E0, E1, E2, E3, and E3S).

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 permitted to increase the capacity of these cans.



LEGAL CONTAINER REGARDLESS OF BRAND



LEGAL CONTAINER REGARDLESS OF BRAND

LEGAL HUNSAKER BRAND ONLY. Specified fuel jug and approved accessories are permitted. No modifications may be made to any approved Hunsaker jug or accessory. Any hoses may be used. Fuel jugs may use the dry break in E0, or added hoses, fittings, and other items, per rule number



P/N HUN-3005-225



180 J-pipe Stainless Steel



180 degree Dumpcan J-pipe extension

A2.1 Approved Dry Break System



P/N H-PP125M



P/N H-PP125FRM Coupler

A3.0 Examples of Illegal Containers



NOT LEGAL CONTAINER REGARDLESS OF BRAND



NOT LEGAL CONTAINER REGARDLESS OF BRAND