nasa Rally Sport

GENERAL REGULATIONS FOR RALLIES

SECTION 3: TECHNICAL REGULATIONS FOR CARS

Version 16.0

Summary of revision 16.0
Due to extensive revisions, change summary and rev bars are not provided for this version.

After comments to the draft closed March 12, 2025, the following changes were made:

Section 3.2.2 – The adjusted displacement limit for OAL was raised from 3500 to 3660.

Thank you to competitors who filed comments during regulation development.

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TECHNICAL REGULATIONS FOR CARS

This section applies to cars, eligible as described within, for entry into NRS events. Other vehicle types that are similar, such as but not limited to Crosscar or Side by Side entries must abide by their specific rule set.

While every effort is made to comply with this ruleset, NASA Rally Sport reserves the right to modify these rules on a per event or per competitor basis when the details of a particular situation dictate it for safety, fair competition, or other unforeseen reasons.

NRS will do our best to confirm your compliance with these regulations, but ultimately YOU are responsible for the safety of your race car. How you build and maintain it makes a difference, please put safety first in all that you do so we can all enjoy race day without injury.

In some places this document may refer to "Article 253" or figure numbers starting with "253". These are references to the most current FIA Appendix J Article 253, which can be found on the FIA website under the regional rally championships technical regulations at the link: https://www.fia.com/regulation/category/117 Rollcage related mentions will be related to chapter 8. Chapter 8 starts in the 2025 issue and refers to the 2020 for most of it's content.

There is a process to request rule changes! We will typically not respond to your request, but all requests will be reviewed and taken into consideration for future rule changes if submitted to the google form at: https://forms.gle/6CiDjACNkNa5TvxC9

Questions about these rules maybe directed to scrutineering@nasarallysport.com or your Regional Director.

3.1 Vehicle Class Rules Overview

The following is a list of vehicle classes for cars. These classes are described in more detail in the following sections. Rules that apply to all cars regardless of class start in section 3.7 .

Abbreviation	Name	Description	FIA Classes eligible
OAH	Open AWD Heavy	Open class AWD forced induction and large engine	Disallowed
OAL	Open AWD Light	Open class AWD naturally aspirated	Disallowed
O2H	Open 2WD Heavy	Open class 2WD forced induction and large engine	Rally4 Rally5
O2L	Open 2WD Light	Open class 2WD naturally aspirated	Disallowed
PRO	PRO	Unlimited championship cars	Rally1 Rally2 (R5) Rally3
EXH	Exhibition	Vehicles exceeding the specs other available classes	Per approval
ELE	Electric	Electric powered cars	Disallowed

Championship series may offer additional classes.
Specific events may offer additional classes.

3.2 Vehicle Class - Open AWD Heavy and Light

Philosophy: Open class vehicles allow any modification to the car, unless you are specifically told you can't do it by a rule within Section 3. Competitors with vehicles exceeding this class are reminded to take a look at the PRO class.

Open AWD Class consists of modified four-wheel drive cars. The class is split into two sub-classes:

1. Open AWD Heavy - four wheel drive with forced induction engines.
2. Open AWD Light - four wheel drive with naturally aspirated engines.

3.2.1 Definition

1. Any vehicle with a four-wheel drive driveline.
2. Vehicle must be based on a model intended for use on public roads and sold globally in a minimum quantity of 1000.

3.2.2 Engine Limitation and Displacement

	Open AWD Heavy	Open AWD Light
Forced induction	Allowed	Disallowed
NSU Wankel patents (Mazda rotary)	Allowed	Allowed*
Adjusted displacement less than	5100 cm3	3660 cm3
Adjusted displacement at least	N/A	N/A
Restrictor required (see 3.14)	34 mm	N/A

* no porting work in rotaries for the light class.

Engine displacement after adjustment shall be no greater than 5100 cm^3. Adjusted engine displacement is calculated by multiplying the actual displacement by the multipliers listed below. For calculating adjusted displacement within a class, the numbers listed for that class must be used.

	Open AWD Heavy	Open AWD Light
Rotary	1.8	1.8
Forced Induction	1.7	Disallowed
Four or more valves per cylinder	1.0	1.2
Three valves per cylinder	1.0	1.1
Two valves per cylinder	1.0	1.0
Pushrod	0.8	0.8
Diesel	0.8	0.8

3.2.3 Authorized Modifications

1. Except for restrictions listed within this class definition, the modification, reinforcement, substitution, addition or deletion of parts and components is permitted without restriction, provided the vehicle complies with the safety and general regulations.
2. Except for doors and roofs, bolt-on body pieces may be constructed of an alternate material. Doors and roof must remain original including inner reinforcing structures in front doors. The A and B pillars must remain original.
3. The original floor pan and firewall must remain and may be modified only to the extent necessary to accommodate allowed alternate components. Roof mounted, commercially available cooling vents are allowed.
4. Fender modifications are allowed for the benefit of tire clearance or coverage. The tires must be contained in the bodywork when viewed above the car in a 90-degree perpendicular angle to the ground.

3.2.4 Weight

1. The minimum weight limit of the car is determined by the class and adjusted displacement.

Adjusted Displacement in cubic centimeters	Minimum Weight, in pounds	
	Open AWD Heavy	Open AWD Light
Up to 1000	2700	1585
over 1000 and up to 1150	2700	1735
over 1150 and up to 1400	2700	1850
over 1400 and up to 1600	2700	2025
over 1600 and up to 2000	2700	2200
over 2000 and up to 2500	2700	2375

over 2500 and up to 3000	2700	2530
over 3000 and up to 3500	2700	2700
over 3500 and up to 4000	2700	2885
over 4000 and up to 4500	2700	3080
over 4500 and up to 5000	2700	3300
over 4000 and up to 5100	2700	3500

2. This is the real weight of the car, without fuel, driver, co-driver and their personal equipment.
3. If the weight is disputed during weighing then all the driver and co-driver equipment, including helmets shall be removed.
4. All transit headphones, tools, spare parts, tires and wheels will remain in the car during weighing.
5. Securely fixed ballast may be used to realize the absolute minimum real weight of the car.

3.2.5 Electronic Controls

Electronic control of the suspension, steering, braking, and gear change/clutch, front and rear differentials are expressly prohibited unless provided with the vehicle as purchased from the dealer. Electric power steering may be added provided that the assist rate is not adjusted by anything more active than a manual knob.

3.2.6 Sequential Transmissions

Sequential transmissions are prohibited with the exception of automatic transmissions available as the vehicle is sold from the dealer.

3.3 Vehicle Class - Open 2WD Heavy and Light

Philosophy: Open class vehicles allow any modification to the car, unless you are specifically told you can't do it by a rule within Section 3.

Open 2WD Class consists of modified two wheel drive cars. The class is split into two sub-classes:

1. Open 2WD Heavy: two wheel drive with adjusted displacement over 2650 cm3 or forced induction. Two wheel drive cars meeting Rally4 or Rally5 regulations.
2. Open 2WD Light: two wheel drive with adjusted displacement equal to or less than 2650 cm3.

3.3.1 Definition

1. Vehicles must be 2-wheel drive.
2. Vehicle must be based on a model intended for use on public roads and sold globally in a minimum quantity of 1000.
3. 2WD Vehicles classified as Crosscars may be allowed to compete within Open 2WD Heavy when entries are insufficient for their own class. This will be decided by event officials and announced for an event through official channels. When this occurs they will still need to meet the rules specific to crosscars and will not be subject to the class rules below.
4. For vehicles converted from AWD to 2WD for competition, AWD capabilities must be disabled in a way that is readily observable without disassembly and cannot be reasonably restored on race day. An example is the removal of driveshaft or drive axles.

3.3.2 Engine Limitation and Displacement

	Open 2WD Heavy	Open 2WD Light
Forced induction	Allowed	Disallowed
NSU Wankel patents (Mazda rotary)	Allowed	Allowed*
Adjusted displacement less than	5100 cm3	2650 cm3

* no porting work in rotaries for the light class.

Adjusted engine displacement is calculated by multiplying the absolute displacement by each of the relevant multipliers listed below:

	Open 2WD Heavy	Open 2WD Light
Rotary	1.8	1.8

Forced Induction	1.7	Disallowed
Four or more valves per cylinder	1.2	1.2
Three valves per cylinder	1.1	1.1
Two valves per cylinder	1.0	1.0
Pushrod	0.8	0.8
Diesel	0.8	0.8

3.3.3 Authorized Modifications

1. Except for restrictions listed within this class definition, the modification, reinforcement, substitution, addition or deletion of parts and components is permitted without restriction, provided the vehicle complies with the safety and general regulations.
2. Except for doors and roofs, bolt-on body pieces may be constructed of an alternate material. Doors and roof must remain original including inner reinforcing structures in front doors.
3. A and B pillars must remain original. The original floor pan and firewall must remain and may be modified only to the extent necessary to accommodate allowed alternate components. Roof mounted, commercially available cooling vents are allowed.
4. Fender modifications are allowed for the benefit of tire clearance or coverage. The tires must be contained in the bodywork when viewed above the car in a 90-degree perpendicular angle to the ground.
5. Sequential transmissions are allowed in Heavy class only

3.4 Vehicle Class – Exhibition

This class is reserved for vehicles not meeting the specifications or philosophy for other classes. Unless explicitly discussed in championship regulations, Exhibition cars are not eligible to be considered for championships points. All vehicles must meet safety requirements. Competitors must get approval from the regional director before their entry will be accepted.

3.5 Vehicle Class – PRO

PRO class is a place where vehicles of exceptional performance may compete against each other without impacting fair competition in other classes. PRO class also provides a place for unique builds/vehicles to compete. If desired, competitors may opt into PRO class with a car that would otherwise compete in the open classes.

Vehicles in PRO could include:

- Vehicles meeting FIA Rally1, Rally2(R5), or Rally3 regulations.
- AWD vehicles with Sequential transmissions.
- AWD vehicles with custom electronic control systems in violation of open class regulations.
- Vehicles running odd sized or no restrictor.
- Professionally prepared vehicles of exceptional performance such as previous WRC cars.
- Vehicles built for other race series but pre-approved by NRS scrutineering such as Ultra 4, trophy trucks, etc..
- Talented competitors who want to attempt outrunning their well-funded buddies in a lesser open class vehicle just to make sure you both know who is faster forever more.

3.5.1 Definition

The vehicle must meet safety standards (cage, seats, belts, construction, safety philosophy, etcetera) and have a valid logbook for competition, but is otherwise unrestricted in performance aspects. Competitors constructing something truly unique just for this class are encouraged to engage scrutineering very early in the process. All entries are subject to review by NRS scrutineering for safety concerns before it will be allowed to race.

Note that in future years it is likely that restrictors will be required for forced induction and/or large displacement engines.

3.6 Vehicle Class – ELE Electric

ELE entries may not be approved for all events due to the unique fire/rescue concerns that they present. Competitors are encouraged to establish contact with your regional director before pursuing an electric rally car build.

Philosophy: Vehicles that came from the manufacturer as all electric vehicles, or vehicles converted to all electric operation. Hybrids are not eligible for this class.

3.6.1 Definition

1. Vehicles may be 2 wheel drive or 4 wheel drive models sold globally in minimum quantities of 1000, or initially based on such a vehicle.
2. Drive wheels must remain as originally manufactured (front wheel drive or rear wheel drive) with the exception that a normally four wheel drive vehicle may be reduced to either front or rear wheel drive.

3.6.2 Battery Limitation

The battery packs are unlimited. Non-stock installations must be approved by NASA Rally Sport prior to acceptance of entry.

The following rules apply to all vehicles regardless of class.

3.7 Roll Cage / Rollover Protection

Roll cages and logbooks are mandatory for all vehicles.

3.7.1 Overview of the Process

Logbooks are issued once by an authorized NASA Rally Sport Scrutineer to a combination of vehicle shell/roll cage assembly as part of the construction process to allow entry into competition. Logbooks are then used through the life of the shell/rollcage assembly to document it's use in competition, damage, modifications, and further scrutineering actions as needed. All cars prepared to Section 3 must have a logbook issued in accordance with these regulations in order to race. Logbooks are issued by Scrutineering staff as part of the construction process and not typically at your first racing event.

If you are new to this, it is a best practice to engage with your scrutineer during planning of your roll cage installation and send him/her some details of your intended design before installation. After installation of the roll cage, seat mounts, and safety harness mounting points a visit with your scrutineer should be arranged for inspection and to obtain the logbook. This should be done before painting over material markings on tubing or installing anything that might restrict access to weld joints (all around) and roll cage details.

Remember that like most racing staff, Scrutineers are volunteers and it would be considerate to reimburse them for any travel that they are willing to do for this process. In order to issue a logbook , scrutineers may ask that you bring the shell to them, meet them at an event that you are not entered into, or meet with them at your first event a few days early for the inspection.

NRS will do our best to confirm your compliance with the regulations, but ultimately YOU are responsible for the safety of your race car.

3.7.2 Issue of New Logbooks

For issue of a logbook by NASA Rally Sport after January 1 2025, a vehicle and roll cage at a MINIMUM must meet one of the following:

1) FIA approved with FIA or ASN homologation certificates. The homologation of any such rollcage must be current with the date of logbook issue. Cages for cars competing in FIA rally classes must

use a homologated cage correct for the FIA class. Cages falling into this category must exactly meet their FIA specifications, be unmodified from those specifications, and are not subject to the remainder of the rules in this document.

2) Fabricated to meet 2020 FIA Appendix J Article 253, Chapter 8 except using materials and sizes listed as acceptable in this document. See the table for acceptable materials and MINIMUM dimensions. Bolted or dismountable joints are not permitted within the structure nor to the body shell. Roof structures that do not support the top outside corners of the windshield (such as shown in 253-13) are not permitted.

For reference:
The last published complete App J Art 253, Chapter 8, dated 2020:
https://www.fia.com/sites/default/files/253_2020_chap_8_wmsc_2020.10.09.pdf

The current 2025 Article 253 with abbreviated Chapter 8:
https://www.fia.com/sites/default/files/253_2025_final.pdf

3.7.3 Acceptable Materials for New Construction

The table below contains acceptable materials and minimum sizes for new roll cages. The use of heat treated or high carbon steels is not allowed.

During inspection, scrutineering may request that a small hole is drilled in tubing for thickness measurements.

For Docol R8, The materials marking on the main hoop must be visible during issuance of the log book or photos clearly showing the material markings and identifiable as the same car must be available for scrutineer review.

If markings are not legible, purchase records containing the material information may be reviewed by scrutineering. When possible, it is recommended that a record of roll cage materials are maintained for the life of the vehicle.

Table: Acceptable roll cage materials and minimum dimensions.

Forming Process	Alloy / Trade name	OD x Wall	Application
CDS or DOM	Max 0.3% Carbon, 1.7% Manganese, 0.6% other elements DIN 1.0402, E355, SAE 1018-1022	1.75 x 0.095 2.00 x 0.083	Primary – Main Roll Bar, Front Roll Bar, Lateral Roll Bars, Lateral Half Roll Bars, traverse bars in the base structure for the configuration chosen, and at least one continuous Door Bar per side.
		1.5 x 0.095 1.6 x 0.083	Secondary – Backstays, Diagonal members, additional Door Bars, Windscreen pillar reinforcement (A-pillar bar), roof reinforcements, and other parts of the Safety Cage.
CHS	Docol R8	1.75 x .083	Primary – Main Roll Bar, Front Roll Bar, Lateral Roll Bars, Lateral Half Roll Bars, traverse bars in the base structure for the configuration chosen, and at least one continuous Door Bar per side.
		1.5 x .083	Secondary – Backstays, Diagonal members, additional Door Bars, Windscreen pillar reinforcement (A-pillar bar), roof reinforcements, and other parts of the Safety Cage.

Best Practices:

- Use the same material type for at least the base cage elements shown in 253-1, 2, and 3 plus one continuous door bar per side.
- Install a sill bar in addition to your door bar design if it will fit in your car with all the required elements. Use the largest tubing size for the sill bar.
- Talk to your scrutineers at scrutineer@nasarallysport.com early and often to get advice and make sure what you are doing will comply.

3.7.4 Requirements for Fabrication

3.7.4.1 Welding

All welding must be of the highest possible quality with full penetration and preferably using a gas-shielded arc. The welds must be continuous around the whole perimeter of the tube at each joint. The external appearance of a good weld does not necessarily guarantee its quality. However, evidence of poor quality welds by appearance is usually a basis for rejection. When using Docol R8, welding guidance provided by the tubing manufacturer must be followed.

3.7.4.2 Bending

In addition to the requirements of 2020 FIA Appendix J Article 253, Chapter 8 for tubing bends, when constructing a rollcage made of Docol the fabricator must follow the guidelines provided by the tubing manufacturer.

3.7.4.3 Gussets

The optional corner cut mentioned in 2020 FIA Appendix J Article 253, Chapter 8.2.14 must be present in all gussets to allow visual inspection of the tubing weld within.

3.7.5 Acceptability of Existing Logbooks:

For vehicles issued a NASA Rally Sport logbook prior to December 31 2024, the roll cage must meet one of the following and at a minimum must have the elements required in grandfathering rules in the current NRS GRR Appendix B. NASA Rally Sport reserves the right to turn away or require modification to any logbooked chassis for safety concerns.

1. An FIA approved roll cage (with either FIA homologation certificates or ASN homologation certificates). The homologation of any such rollcage must have been current with the date of logbook issue. Cages for cars competing in FIA rally classes must use a homologated cage correct for the FIA class. Cages falling into this category must exactly meet their FIA specifications, be unmodified from those specifications, and are not subject to the remainder of the rules in this document.

2. Fabricated to meet FIA Appendix J Article 253, Chapter 8 for year logbook was issued. Link above.

3. Modified to meet current new construction requirements above, reviewed by scrutineering, and modification notated in the log book.

4. Rollcages previously built and logbooked to NASA Rally Sport GRR Appendix B issued March 15, 2014.

5. Rollcages logbooked under sanctioning bodies no longer maintaining a stage rally rule set that meet the grandfathering conditions in the current NRS GRR Appendix B.

6. Alternately, if the vehicle is presented under alternate technical regulations as per GRR 3.11.5 , consult the appropriate current documents for acceptability of existing logbooks.

3.7.6 Transfer or Reissue of Logbooks

Logbooks are to remain with a racecar when sold or purchased and are issued once over the life of the vehicle. A change of ownership shall be notated in the logbook with contact information for the new owner.

Obtaining a replacement logbook for a previously constructed car can be challenging or sometimes impossible. Please take care to protect and store logbooks such that they are usable for the life of the vehicle. If

replacement is needed, the full inspection process will need to be repeated and alterations to bring the car up to current standards may be required at the discretion of NRS staff.

A previous/existing logbook may not be reused for any shell or rollcage in any combination that differs from the original VIN'd car shell and roll cage inspected by the Scrutineer when the logbook was issued. Any repair or modification that effects matters relevant to the roll cage, vehicle shell, seat mounts, and/or harness mounts must be fully disclosed to scrutineering and a signoff obtained by scrutineering for future competition. These reviews may be done at events if arranged ahead of time with scrutineering staff.

Any competitor who knowingly submits an entry for a vehicle which is found to have been subject to deceptive practices relevant to logbooks and scrutineering inspections will be subject to penalty for a serious violation of safety requirements. This can potentially result in a lifetime ban from competition with NASA and NASA Rally Sport. Deceptive practices can include using a previous logbook on a new build, performing a reshell of an old roll cage and using the previous VIN/logbook without reinspection, obtaining a logbook from sources other than currently approved scrutineer, presenting a roll cage constructed of unapproved materials, and other similar actions.

3.8 Roll Cage Protective Padding

3.8.1 Required Padding

Where the occupants helmets could come into contact with the safety cage, padding to FIA specification 8857-2001, type A, or to SFI specification 45.1, must be installed.

3.8.2 Recommended Padding

Where the occupants bodies could come into contact with the safety cage, padding should be provided for protection. This is particularly important around the areas where the lower legs can contact the cage elements.

3.9 Seats

Seats shall be of one-piece construction intended for racing use and shall be firmly mounted to the shell/chassis structure of the vehicle in such a manner as to prevent the movement of the seat in case of an accident. All fasteners used will be at least 8mm and SAE grade 5 or better or metric grade 8.8 or better. The use of sliders is prohibited.

The recommended mounting method is Article 253 Art 16 Section 2. Welding rather than bolting of mounts to the vehicle shell/chassis is allowed.

Use of FIA certified/homologated seats is required. Acceptable standards are FIA 8855-1999, FIA 8855-2021, or FIA 8862-2009. Note that for the latter 2 standards using the mount supplied with the seat is required to meet the standard. Seats do not expire but must be in good condition and should be replaced if involved in a significant accident.

3.10 Safety Harness

Five, six, or seven-point safety harness are required for both members of the crew. It is not permitted to mix parts of seat belts. All harnesses shall be of current FIA or SFI specification.

All SFI certified restraints must be maintained, inspected, and replaced or rewebbed on or before the expiration date on the SFI tag on the restraints.

All FIA certified restraints may be used through December 31 of the year of expiration contained on the label attached to the restraints. FIA certified restraints contain the expiration date on the label attached to the restraints, and not the date of manufacture.

Dual certified harnesses may use the later date.

3.10.1 Condition
The material of all straps, buckles, and hardware shall be in new or perfect condition and the system must function perfectly. The belts must be replaced after every severe collision, and whenever the webbing is cut, frayed or weakened due to the actions of chemicals or sunlight.

3.10.2 Placement
The lap belt and crotch straps should not pass over the sides of the seat but through the seat's provided holes.

3.10.3 Safety Wiring
If the manufacturer provides for safety wiring the locking bale or clasp to prevent accidental unfastening of the belts from their anchorage points, then it shall be necessary for all such components to be safety wired or metal pinned.

3.10.4 Hardware
All mounting hardware should be SAE grade 5 7/16 UNF minimum or metric grade 8.8 M12 minimum.

3.10.5 Anchorage - Lap Belts
It is preferable that safety harnesses be installed on the OEM anchorage points of the vehicle. The recommended locations of the anchorage points are shown in FIA Article 253 drawing 253-61-b. If necessary a New Anchorage Point meeting Article 253 6.2.4 may be constructed.

3.10.6 Anchorage - Crotch Belt(s)
The crotch belt(s) may attach either to the OEM anchorage points for the OEM lap belts or to a new Anchorage Point meeting Article 253 6.2.4 installed below the seat.

3.10.7 Anchorage - Shoulder Belts
The preferred mounting of shoulder straps is to the safety roll cage or to a reinforcement bar by means of a loop. Alternatively, new anchorage points may be installed on the shell or the chassis.

3.10.8 Shoulder Belts Reinforcement Bar
The installation shall be in accordance with the requirements of 2020 FIA Appendix J Article 253 Chapter 8 relevant to transverse bar installation for harness mounting.

3.10.9 Shoulder Belt Reinforcement Bar Attachment
The straps may be attached by looping or by bolts. If bolts are used an insert must be welded for each mounting point (see drawings 253-63 and 253-67 for the dimensions). These inserts will be positioned in the reinforcement tube and the straps will be attached to them using bolts.

3.10.10 Shoulder Belt Placement
The shoulder belt anchorage must be such that the shoulder straps, towards the rear, are directed downwards with an angle of between 0 degrees and 20 degrees to the horizontal from the rim of the backrest, see 2025 FIA Article 253 diagram 253-61-c. The maximum angles in relation to the centerline of the seat are 10 to 25 degrees convergent. (See FIA 2025 Article 253 diagram 253-61-d)

3.10.11 New Anchorage Reinforcement
For each new anchorage point created, a steel reinforcement plate with a surface area of at least 6 square inches and a thickness of at least 1/8th inch must be used. Anchorage to steel tubing structure welded to the vehicle chassis are permitted but must be approved by scrutineering.

3.10.12 Principles of Mounting to the Chassis/Monocoque

3.10.12.1 General Mounting System
See Article 253 drawing 253-62.

3.10.12.2 Shoulder Strap Mounting
See Article 253 drawing 253-63.

3.10.12.3 Crotch Strap Mounting
See Article 253 drawing 253-64.

3.10.13 Manufacturer Instructions
A safety harness must be used in conformity with the manufacturer’s instructions. These instructions must be available for review by scrutineering during tech inspections if requested.

3.11 Vehicle Eligibility

3.11.1 Vehicle Registration

Each vehicle entered in a NASA Rally Sport event must have a current and valid vehicle registration. This requirement may be waived for closed venue events or when a vehicle is trailered for transit sections.

3.11.2 Street Legality

A valid state-issued registration will be accepted as evidence that the vehicle meets appropriate regulations to operate on a public road. Required equipment should remain in good operation throughout the running of the event. Should the competing vehicle be detained or removed from operation during an event by a law enforcement officer, the competitor may not seek remedy or relief under these Regulations. This requirement may be waived for closed venue events.

3.11.3 General Construction

Vehicles eligible for events must be production based, four wheeled passenger vehicles with full fixed metal roofs, generally available for purchase by the general public. Convertible, “targa” and “T” top models are not permitted. The frame, floor pan, basic body shell, and firewall must remain original but may be modified for strength or to accommodate legal components. Exterior bodywork and pieces must be present and visually similar to the original components. Otherwise non-eligible vehicles may compete at the discretion of NASA Rally Sport. "One-off" vehicles specially built from the ground up for competition use are prohibited without advance approval.

3.11.4 Vehicle Preparation Regulations

All vehicles not otherwise excepted must at a minimum meet NASA Rally Sport Technical Regulations.

3.11.5 Vehicles Prepared to Technical Regulations of Other Sanctioning Bodies

Any allowances made herein apply only to vehicle passing technical inspection. All rules regarding vehicle registration and insurance still apply. Vehicle classing will be done according to the rules the event is using. All vehicle roll cages must at a minimum have the elements required in grandfathering rules in the current NRS GRR Appendix B to be accepted for competition.

3.11.5.1 Documentation

Vehicles competing under alternate technical regulations must bring printed copies of those regulations, in their entirety, to the vehicle’s technical inspection.

3.11.5.2 Canadian Association of Rally Sport (CARS)

Any vehicle with a CARS log book that is currently legal to run under CARS rules may request to be inspected according to that rule set. If passed, it is legal to compete at a NASA Rally Sport event. NRS rules apply for all safety gear worn by the racer.

3.11.5.3 Federation Internationale de L’Automobile (FIA)

Any FIA legal vehicle with homologation papers that is currently legal to run under FIA rules may request to be inspected according to that rule set. If passed, it is legal to compete at a NASA Rally Sport event. NRS rules apply for all safety gear worn by the racer.

3.11.5.4 SCORE International

Any vehicle with a SCORE cage tag that is currently legal to run under SCORE rules, including having a current SCORE annual inspection, may request to be inspected according to that rule set. If passed, it is legal to compete at a NASA Rally Sport event. NRS rules apply for all safety gear worn by the racer.

3.11.5.5 American Rally Association (ARA)

Any vehicle with an ARA log book that is currently legal to run under ARA rules may request to be inspected according to that rule set. If passed, it is legal to compete at a NASA Rally Sport event. NRS rules apply for all safety gear worn by the racer.

3.12 Wheels

1. The wheels are free, regarding the maximum diameter and maximum width unless amended in specific class regulations.
2. The use of wheels with lesser dimensions is permitted.
3. Wheels made from forged magnesium are forbidden (including standard wheels).
4. Air extractors added on the wheels are forbidden.

3.13 Tires

1. Tires are free.

2. The use of any device for maintaining the performance of the tire with an internal pressure equal to or less than the atmospheric pressure is forbidden. The interior of the tire (space between the rim and internal part of the tire) must be filled only with air or nitrogen.
3. The spare wheel may be brought inside the driving compartment, on condition that it is firmly secured there and the wheel is not installed in the space reserved for the occupants.

3.13.1 Additional Tire Rules For Tarmac Events

1. A tread pattern depth of 5.5mm (6/32”) must be molded into the tire and at all times during the event, the tread depth of the tires must be not less than 1.6 mm (2/32”) over at least three quarters of the tread pattern.
2. The method of measuring the tread depth shall be averaging two measurements, both taken in the center of the width of the tire, with the measuring points being at the 10 o’clock and 2 o’clock positions.
3. Shaving of tires is permitted. Siping/grooving of tires is permitted. Tires do not need to be homologated.
4. Full racing slick and “DOT” road race tires are disallowed. Some examples are Hoosier R series and DOT-R radials; Kumho ECSTA V730; Toyo Proxes RR, Yokohama ADVAN A055 .

3.13.2 Additional Tire Rules for Snow/Ice Events

1. The use of tires with metal or plastic studs is allowed only at designated snow/ice events.
2. The maximum stud length is 5 mm measured from surface of the rubber of the tire.
3. Studs must be installed from the outside of the tire. Studs made of screws or bolts which start inside the tire and protrude through the tire carcass are prohibited.

3.14 Turbocharger/Supercharger Restrictors

3.14.1 Restrictor Sizes

Car Class	Maximum Internal Restrictor Size
Open AWD Heavy	34 mm
All other classes	not required

3.14.2 Restrictor Specifications

1. All forced induction cars listed as requiring restrictors must be fitted with a restrictor fixed to the compressor housing on the low pressure side unless the compressor air inlet internal diameter is equal to or smaller than the required restrictor internal diameter.
2. All air used for feeding the engine must pass through this restrictor before being compressed or pumped.
3. The restrictor must be maintained for a minimum distance of 3 mm measured in the direction of airflow and must be within 50mm distance from the intake face of the compressor wheel.
4. The required diameter must be complied with regardless of the temperature conditions.
5. For the installation of the restrictor it is permitted to remove material from the compressor housing and to add material for the sole purpose of attaching the restrictor onto the compressor housing.
6. The restrictor must be made from a single piece of material.
7. The restrictor may not have holes through to the flow area for any reason. Mounting fasteners must be drilled for wiring and sealing and configured such that restrictor removal is not possible unless wiring is removed from the fasteners.
8. In case of an engine with two parallel compressors, each compressor must be limited to a maximum intake diameter of 22.6 mm.

3.15 Fire Extinguishers

3.15.1 Number

Two or more fire extinguishers with a minimum UL rating of 10 BC each must be installed inside the passenger compartment. During installation, consideration must be given to quick release and security of attachment during hard impacts. One fire extinguisher must be located within easy reach of the Driver or Co-Driver when seated. Permanent mounted fire systems may be installed but will not be used to meet this requirement, extinguishers that may be removed easily and used by hand are required.

3.15.2 Extinguisher Chemical Type

It is recommended that Halotron or a similar gas be used. If a dry powder unit is used, the unit should be shaken or rapped sharply at frequent intervals to reduce the chance of the powder compacting.

Acceptable Quantity of Extinguishant equivalent to a 10BC rating	
AFFF	2.4 liters
4F Universal	2.4 liters
FX G-TEC	2.0 kg
Viro3	2.0 kg
Novec 1230	2.0 kg
Halotron I	5.0 kg

3.15.3 Maintenance

Evidence must be produced that fire extinguishers necessary to meet the minimum requirement have been purchased, inspected, or recharged within the preceding two years. Additional extinguishers exceeding the 2 year requirement may be mounted in the vehicle if desired. Extinguishers in reach of occupants must be within the 2 year maintenance period.

3.15.4 Onboard suppression

On-board fire suppression systems are not required. However, if present they must be installed safely in accordance with one of the following standards:

- SFI Spec 17.1 and display a manufacturer appearing on the current respective list of SFI Spec 17.1 manufacturers at sfifoundation.com.
- FIA 8865-2015.
- Currently listed as homologated for Rally on Technical List n° 16 of the FIA website.

The system may be either manual or automatic activation.

1) All bottles will be secured using a metal strap, have a fill gauge and certification date sticker that is visible, and be easily removeable for weighing by Scrutineering.
2) The activation point for the fire system must be located within easy reach of the driver and co-driver when seated.
3) All such systems will be installed and serviced in accordance with the manufacturer's instructions.
4) All on-board systems shall be identified with 2 circle "E" decals one at the release location and the second on the outside bodywork in line with or as near to the release location as possible.
5) The system lines and cables may not pass between the roll cage and the sides of the body shell.

Installed systems showing good on the pressure/fill gauge with an out of date certification will not be cause for failing an event technical inspection. However, any installed system must be functional.

3.16 First Aid Kit

A comprehensive first aid kit shall be carried in the passenger compartment. The first aid kit must include:

1. Antiseptic (ointment or liquid)
2. Gauze pads or rolls
3. Adhesive tape
4. Arm sling
5. Safety pins
6. Scissors
7. 2 "space" blankets
8. First aid manual.
9. Optional but may be required in the future- Tourniquet.

3.17 Safety Triangles

A minimum of three self-supporting, light-reflecting, daylight-visible triangular warning devices shall be carried in the vehicle. One of which must be located within easy reach of the Driver or Co-Driver when seated. The minimum size of the triangle is 14 inches from tip of the triangle to opposing side of the triangle.

3.18 Glass Breakers and Belt Cutters

All vehicles with glass door windows must carry a glass breaking device in reach of both the driver and codriver.

All vehicles must carry a device designed to cut seat belts within reach of the driver and codriver.

3.19 Batteries

3.19.1 Mounting

Batteries must be securely mounted with metal-to-metal mounts. Positive battery terminals must be covered with securely installed non-conductive material when the battery is not in a non conductive box.

3.19.2 Wiring

Battery primary wiring must not be routed between rollcage tubing and the shell/chassis.

3.19.3 Housing

If removed from the original location, all flooded lead acid cell batteries shall be mounted inside covered, non-conductive boxes.

3.19.4 Mounting within Passenger Compartment

If mounted inside the passenger compartment, batteries shall be those that are completely sealed or designed to be leak tight in any orientation.

3.20 Master Electrical Disconnect Switch

All vehicles are required to have a spark-proof Master Electrical Disconnect Switch mounted in the passenger compartment with the capability of disconnecting all electrical circuits and shutting off the engine. This includes starter wiring. Competitors are reminded that remote switches are available if they do not wish to run a large wire into the cab.

3.20.1 Location

The location shall be that which makes it easily operable by either member of the crew or by persons outside the vehicle through either front door.

3.20.2 Labeling

The location of the circuit breaker shall be marked with a label showing a red spark in a white-edged blue triangle.

3.20.3 Supplemental circuits allowed

Supplemental circuits must be fused at the battery and may be used only for the following devices:

- wiring to protect the integrity of computer memory.
- Power supply to an installed amateur radio.
- When required- Power supply to NRS required car tracking systems as directed in installation documentation.

3.21 Road Worthiness Items

Each vehicle must be road worthy and have the following equipment in full functional condition:

1. Horn, windshield wipers, windshield washer.
2. Inside rearview mirror and side mirrors.
3. Foot brake and parking brake (or wheel chock).

3.22 Windows

The front windshield shall be laminated safety glass

All windows and windshields should be presented to scrutineering free from structural damage minus small cracks and chips.

The front windshield must be replaced if it is structurally damaged during the event. Failure to replace broken and or damage windows as judged by the event scrutineer during service shall be deemed a safety hazard and shall cause competitor to be declared DNF.

3.22.1 Window Winders

It is encouraged to replace electric winders with manual ones. In all cases, the competitor must be able to describe to the satisfaction of the event Scrutineer the ability to escape from the car with the doors closed.

3.22.2 Use During Events

Windows in the driver and co-driver doors must be fully rolled-up during special stages unless window nets are in use.

3.22.3 Window Nets or Arm restraints

Window safety nets are required for vehicles running without closed windows in the driver or codriver door. If used, window nets must be present and installed during event technical inspection.

As an alternative to window nets, arm restraints may be used that meet SFI 3.3.

All SFI certified window nets or arm restraints must be in good condition and may be used beyond the expiration date.

3.22.4 Window Films

The use of clear transparent anti-shatter films on all glass side and rear windows is highly recommended. The use of silvered or tinted films is also authorized provided that the openings in these films allow a person outside the car to see the driver.

3.22.5 Window Replacement

In classes where it is permissible to replace glass side and rear windows with plastic, the material shall be polycarbonate (such as Lexan, Makrolon, Arla). Brittle materials such as plexiglass or Perspex are not permitted. Thickness shall be 1/8” or greater.
Competitors must be able to display to the satisfaction of the event Scrutineer that the mounting of the substitute windows will allow both emergency escape from inside the car and access by rescue from the outside of the car.

3.23 Lights

1. Headlights may be changed only if they retain the original mounting points and the replacement units are similar in outward shape to the original design.
2. A headlight shall be considered as any lighting device throwing a beam toward the front of the vehicle (dipped-beam, long range lamp, anti-fog lamp).
3. Auxiliary headlights may be fitted.
4. It must be possible to turn off all high-beam headlights and auxiliary lights with a single switch, which must leave the low-beam headlights functioning.
5. It must not be possible to operate any fog lights fitted without the front marker lights and taillights operating.
6. Auxiliary reversing lights may be fitted. All reversing lights may only switch on when engaging reverse gear.
7. It is not permitted to fit any device that can alter the normal functioning of the brake lights.
8. The mounting of maneuverable searchlight(s) is prohibited.
9. Headlights with high and low beams must be present and functional.
10. Parking lights, taillights, brake lights, front and rear turn signals must be present and functional.

3.24 Exhaust System

The maximum permitted noise level from the exhaust system shall be 105 db (A scale) with the engine idling at 2500 RPM, measured from a distance of 18 inches in an area 45 degrees either side from the centerline of the exhaust outlet. The test shall be on level ground and be free from any obstructions.

3.25 Fuel Tanks, Lines and Pumps

An OEM fuel tank may be used provided it remains in the OEM location and is secured by OEM equipment. OEM tanks and other related items are subject to the bulkhead rules below. Alternatively, a fuel cell or cells of any size may be installed per the rules of this section.

3.25.1 Fuel Tank Bulkhead

A fuel-resistant and fire-retardant solid bulkhead completely separating the fuel tank, fuel pump, fuel cell, filler neck, fuel line connections, supplemental tanks of any size, and vent lines from the passenger compartment must be installed. This is required even when an OEM installation did not provide for it. Screwed or bolted access panels are acceptable but must be sealed in some manner.

3.25.2 Approved Fuel Cells

The original fuel tank may be replaced or supplemented by a fuel cell meeting either SFI 28.3, FIA FT3 1999, FIA FT3.5, or FIA FT 5 specifications.

The fuel cell(s) must be of a bladder type and installed in a metal container(s) completely surrounding the fuel bladder. This container is in addition to the fuel tank bulkhead. A small drain hole in the container is permitted to ensure draining from between the bladder and the container.

The fuel cell must include a non-return valve or flapper on the fill connection at the tank suitable to prevent spillage in a rollover.

The fuel cell must be properly vented to the outside of the vehicle from the compartment in which it is located. Vent lines originating at the tank must be designed to prevent fuel spillage in any vehicle orientation.

The manufacturer, the model, the specifications to which the tank was manufactured, the homologation number, the date of end of validity, the series number, and the bladder install month/year must be printed on the fuel cell and in the vehicle logbook.

Proof of fuel cell age is the responsibility of the competitor, it is recommended to carry a purchase receipt and/or photos showing bladder markings in the logbook. The installation must be such that the bladder can be exposed for inspection using only hand tools if scrutineering requires it.

Should the fuel cell and its filler be located in the luggage compartment, an outlet must be provided for fuel spilled in the compartment.

The aging of safety tanks entails a considerable reduction in the strength characteristics after approximately five years. No bladder shall be used more than five years after the date of manufacture, unless inspected and recertified by the manufacturer for a period of up to another two years.

3.25.3 Supplemental Fuel Tanks

Supplemental fuel tanks are permitted. Any container (surge tanks, swirl pots, vent cans, pump housings, supplemental fuel tanks, filters, etc.) that holds more than 0.4 gallons of fuel is considered a fuel cell and subject to the fuel cell requirements.

3.25.4 Rerouting of Lines

If fuel lines are re-routed through the passenger compartment, they shall be in compliance with the following:

- Shall incorporate a metallic casing. If the metallic casing is not exterior to the line, a verifiable sample must be presented at scrutineering.
- Shall have a minimum of 200 psi rating.
- No connectors may be inside the passenger compartment except on the front and rear bulkheads using fittings intended for this purpose as shown in article 253 figures 253-59 and 253-60.

Fuel lines are not to be routed between the roll cage and the chassis.

If the manufacturer routes fuel lines through the passenger compartment, it is recommended that they be in compliance with this section.

3.25.5 Fuel Pump

It is permitted to relocate or replace fuel pumps. It is permitted to install additional fuel pump(s). All the fuel pumps must only operate when the engine is running, except during the starting process.

3.25.6 Fuel Pump Bulkhead

Fuel pumps and filters shall be isolated from the driver/co-driver by a sealed and fireproof metal bulkhead.

3.26 Towing Attachment points

Towing attachment points are fixed all metal plates, rings, or hoops securely attached to vehicle strong points at the front and rear for easy hookup to tow or recover a vehicle. They must be constructed entirely of metal and attached directly to the chassis/shell.

They shall be attached to the front and rear of the vehicle. They shall be made obvious by painting them and/or using arrows on the vehicle surface in yellow, red, or orange colors. They must be readily accessible without crawling or reaching under the vehicle.

Tow points are often used by sweep vehicles to drag or even lift cars from difficult locations back to a road surface using winches at less than ideal angles. It is strongly recommended to have very secure attachment points designed to be pulled from any direction with considerable force.

Tow points must have an enclosed opening sufficient to pass a standard golf ball through and be designed such that they will not cut a 'soft shackle' or strap passed through the hole. 'Metal strap with a hole' type attachments are easily converted to meet this requirement with the use of a 5/8 or larger 'anchor shackle'. In addition to this a tow hook may be installed for easy attachment of a looped end strap/rope during recovery of/by other race cars. Hook installations need to be installed close to the bumper or bodywork with consideration for pedestrian safety and must not protrude to the side of the vehicle body.

Existing vehicles with tow points that were acceptable under the previous edition of this regulation will be allowed to compete until 2026.

3.27 Tow Rope
All vehicles must carry a tow rope or strap. This must not be left connected or outside the vehicle except during recovery or tow.

Starting in 2026, Tow ropes/straps will be required to be of a ¾ inch or larger kinetic recovery style which is 19 feet or more in length and not allowed to have metal ends attached. These will be used with soft shackles and/or installed hooks.

3.28 Loose Articles
All articles in the vehicle which could be dangerous if left loose must be securely restrained.

3.29 Door Panels
Inside door panels are required to provide protection from metal edges.

3.30 Roofs
Movable metal sunroofs and/or roof panels must be fixed in the closed position. Sunroofs and/or roof panels of any other material must be replaced with metal and must be fixed in the closed position. The finished work must be of equal or greater strength than the permanent roof.

3.31 Air Bags
Airbags and their associated equipment must be disabled or removed during competition.

3.32 Mud Flaps
Mud flaps are required on all wheels.

3.33 Power Door Locks
Power door locks are acceptable. If doors can be locked, manual mechanisms must also be present such that rescue personnel can find and use them easily from common knowledge.

3.34 Steering Locking Device
Steering locking devices must be rendered inoperative.

3.35 Camera and Camera Mounts
Camera mounts and their attachment to the vehicle shall be of a safe and secure design which would prevent either driver from being able to strike any part of the mount. Cameras over 0.5 lbs shall be secured at a minimum of two different points and neither attachment may be elastic or plastic. Smaller cameras are only required to have one attachment point and may use plastic.

Cameras mounted to the external surfaces of the vehicle may not protrude more than 6 inches from the sides of the vehicle and must be shown to scrutineering before use.

3.36 Personal Safety Items for Occupants

3.36.1.1 Helmets

All members of the crews competing in events pursuant to these rules must wear unmodified helmets with one of the following ratings:

1. Snell Foundation SA2015, SA2020 or newer
2. FIA Certification of 8860-2010, 8860-2018, or newer
3. FIA Certification of 8859-2015, 8859-2024, or newer

Helmets over 10 years old are not permitted.

3.36.1.2 Suits

All members of the crews competing in stage rally and rally sprint events must wear suits with one of the following ratings:

1. FIA Standard 8856-2000, 8856-2018, or newer
2. FIA NORME 1986/1986
3. SFI 3-2A/5
4. SFI 3-2A/1 with fire resistant underwear meeting an FIA or SFI specification.

Competitors are reminded to review guidelines for what you wear under your racing garments.

3.36.1.3 Head and Neck Restraint Devices

Use of a head and neck restraint system or device is mandatory for all car drivers and car navigators. Acceptable certifications are:

- SFI 38.1
- FIA 8858-2002
- FIA 8858-2010

An FIA sticker supersedes an SFI sticker.

SFI rated devices must not be expired.

FIA restraint devices do not expire, however tethers are marked with a manufacture date and shall not be used beyond the end of the year found by using the marked date plus 5.

Any system used must be installed, used, and maintained according to the manufacturer's directions. The driver is ultimately responsible for the proper installation and use of these devices.

3.37 Special Accommodation for Disability

In the past, we have worked with competitors who need special consideration to accommodate a disability. This can include changes such as hand controls or devices to assist egress. NRS is happy to accommodate these requests when an alternate arrangement can be found that does not impact safety. If this is needed, reach out to your Regional Director for guidance.

3.38 Definitions

These definitions apply to all of Section 3.

1. **Model** - All vehicles belonging to a production series, distinguishable by a specific conception and general exterior lines of the bodywork and by the identical method of transmitting the engine power to the drive wheels. Supercharged/turbocharged vehicles will be considered as different models than normally aspirated versions of the same car. The terms turbocharged, supercharged, and forced induction will be used interchangeably within this document.
2. **Model variant** - A model may exist in several variants as to bodywork (i.e.: 2 door sedan, 4 door sedan, coupe, station wagon etc.) or with regard to mechanical components.
3. **Interior bodywork** - cockpit and trunk
4. **Exterior bodywork** - All the entirely suspended parts of the car licked by the air stream.

5. **Chassis or Shell** - The overall structure of the car around which are assembled the mechanical components and the bodywork including any structural part of the said structure.
6. **Original equipment** - All items of standard or optional equipment that could have been ordered with the particular bodywork variant of the car, installed on the factory production line, and delivered through a dealer in the United States or, for group N, as provided for in the homologation papers for the vehicle. Dealer installed options, except as required by the manufacture directive (no matter how common), are not included in this definition.
7. **Automatic Transmission** - This is made up of a hydrodynamic torque converter, a box with epicyclical gears equipped with clutches and multi-disc brakes and having a fixed number of reduction gears, and a gear change control. The gear change can be achieved automatically without disconnecting the engine and gearbox, and thus without interrupting the engine torque transmission. Gearboxes with continually variable transmission are considered as automatic gearboxes.
8. **Commercially Available** - This shall be interpreted as meaning that the general public is able to obtain a price and reasonable delivery date for the specific make and model.
9. **Kinetic Recovery Rope** – recovery straps or ropes that allow for at least 20% stretch under load to soften impacts to vehicles and their tow points.