



Technical Rules

American Rally Association

2018 Edition

ARA reserves the right, upon written application, to grant specific, limited exemptions to these regulations where it can be shown that the exemption is in the best interests of the sport or in the interest of safe conduct of the sport.

Granted exemptions shall be communicated in writing by the ARA President or, in the case of an ARA National Championship event, the ARA president or the Series Manager and be included in the event's Supplementary Regulations or posted on the event's Official Notice Board.



1. COMPETITOR PERSONAL SAFETY EQUIPMENT

1.1 Helmets

- 1.1.1. Only helmets meeting one of the following standards will be accepted for competition in any performance rally and must be worn by all competitors when travelling on special stages:
- FIA Standards - 8860-2004 or 8860-2010 or 8859-2015
 - Snell Foundation certification - SAH 2010 or SA 2010 or SA 2015
- 1.1.2. Helmets that do not pass scrutineering will be confiscated and returned after the event. Helmets may fail scrutineering due to non-compliance with the above standards or for not being in good condition as evidenced by cracks, frays, punctures or other defects.
- 1.1.3. No helmet may be modified from its specification as manufactured, except in compliance with instructions approved by the manufacturer. Hardware may only be mounted on a helmet for approved FHR devices, provided the hardware is installed in accordance with recommendations provided by the manufacturer of the helmet and/or the devices. Any other modification will render the helmet unacceptable.
- 1.1.4. The fitting of earplugs and microphones to helmets may be done only in respect of the paragraph above.
- 1.1.5. Paint can react with helmet shell material and affect its protective capacity. Where a manufacturer provides guidelines or restrictions on the painting or decoration of helmets, these must be followed, using only paint specified by them and preferably a painter having their approval. This is particularly important for injection-moulded shells which are not usually suitable for painting. The shell being painted must be efficiently masked as paint penetrating the interior can affect the performance of the helmet liner. Paints requiring heat curing must not be used and any process must not exceed the maximum temperature of conditioning of the helmet in the standard to which it is approved. The manufacturer's instructions must also be consulted for any considerations on the use of stickers and transfers.
- ### **1.2 Frontal Head Restraint**
- 1.2.1. Each competitor must wear a Frontal Head Restraint system (FHR) which meets the following standards:
- 1.2.2. HANS® system: HANS devices shall be approved according to FIA standards 8858-2002 or 8858-2010. Consult the FIA Technical List n° 29 to see which HANS devices are approved by the FIA.



- 1.2.3. Other systems certified to SFI 38.1 Such devices must bear a SFI 38.1 conformance label that is less than five years old.
- 1.2.4. Hybrid® system: Hybrid devices shall be approved according to FIA Standard 8858-2010. Consult the FIA Technical List n° 29 to see which Hybrid devices are approved by the FIA.
- 1.2.5. Tethers for FIA Certified devices must be FIA approved. The Frontal Head Restraint system should be considered as an ensemble which involves the seat, the harnesses, the frontal head restraint unit, its tethers and helmet. For more details, “Guide for the use of HANS in International Motor Sport” published by the FIA Institute for Motor Sport Safety, can be found on www.fia.com under the heading FIA Sport – Regulations – Drivers’ Equipment.
- 1.3 **Driving Suits**
- 1.3.1. All competitors shall wear at all times during the event, a one- or two-piece driving suit conforming to:
- FIA Standard 8856-2000
 - FIA 1986 Standard
 - SFI 3-2A/5 Specification
 - SFI 3-2A/1 Specification with approved fire resistant underwear (FIA Standard 8856-2000 or SFI 3.3 Specification)
- Suits that have had their homologation withdrawn may not be worn.
- 1.3.2. No other garments worn over driving suits are acceptable on special stages. The suit and applicable undergarments shall be presented at technical inspection in a clean and presentable condition. Driving suits must effectively cover the body from the neck to the ankles and wrists and be in good condition, free of defects, holes, cracks, frays, etc. Embroidery sewn directly onto the overalls shall be stitched onto the outermost layer only, for better heat insulation. Backing material of badges and thread used for affixing them to the overalls must be flameproof (see Appendix 1 of the FIA 8856-2000 Standard for detailed requirements and instructions for use).
- 1.3.3. All competitors must wear shoes and socks while on stage. The shoes must cover the entire foot and be of leather or approved fire-proof material. Socks may not be manufactured of synthetic fibre except for nomex or similar fire resistant material



2. ELIGIBILITY OF VEHICLES AND EQUIPMENT

APPLICATION

- These regulations shall apply to vehicles competing in rallies which contain special stages.
- Vehicles must comply with these regulations at all times during the competition.

2.1 DEFINITIONS

2.1.1. Chassis - Bodywork.

2.1.2. Interior bodywork: cockpit and trunk.

2.1.3. Exterior bodywork: All the entirely suspended parts of the car licked by the airstream.

2.1.4. Chassis: The overall structure of the car around which are assembled the mechanical components and the bodywork including any structural part of the said structure.

2.1.5. Vehicle Weight: The real weight of the car without the occupants or their worn safety gear. Vehicles may be weighed at any point during an event.

2.1.6. Model: A model is a basic manufacturer's designation (e.g.: Subaru Impreza, Volkswagen Golf, Ford Focus, Mitsubishi Lancer, etc...)

2.1.7. 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 (e.g.: WRX, WRX STI, etc.).

2.1.8. Original equipment (OEM): Original equipment is defined as all items of standard or optional equipment that could have been ordered with any particular bodywork variant of the model, installed on the factory production line, and delivered through a dealer in the U.S.A. This does not include special orders, "one-offs" or pre-production vehicles. Dealer installed options, except as required by manufacturer directives (no matter how common), are not included in this definition.

2.1.9. Generation: A generation is a model's particular design offered during a specific year or number of consecutive years. After producing an original model (e.g. First Generation: 1993 – 2001 Subaru Impreza, 1976 – 1979 Mitsubishi Lancer, 1998 - 2005 Ford Focus, etc.) manufacturers may develop significant changes or totally redesign the original model after producing it for a number of years. They classify this new/next design as the next generation of that model (e.g. 2nd. Generation: 2002 - 2007 Subaru Impreza, 1979 - 1987 Lancer, 2005 - 2011 Ford Focus, etc.)



2.2 VEHICLE SAFETY REGULATIONS

2.2.1. Road worthiness.

All competing vehicles must be roadworthy and, the following items in particular must be adequate and functioning properly:

- Brakes
- Horn
- Windshield wipers
- All legally required exterior lights
- Tires, including all spares
- Exhaust system
- Catalytic Converter (if required)

2.2.2. Roll Over Protection.

2.2.2.1. Roll cages are mandatory for all vehicles.

2.2.2.2. Specific roll over protection is subject to the approval of the scrutineer at each event.

2.2.2.3. Basic design considerations.

- The basic purpose of the roll over protection is to prevent serious body-shell deformation, and so reduce the risk of injury to occupants, in the case of a collision or of a car turning over. The essential features of safety cages are sound construction designed to suit the particular vehicle, adequate mountings and a close fit to the body-shell. The safety cage must not unduly impede the entry or exit of the driver and co-driver.
- All new vehicles with log-books issued after January 1, 2009 must be fitted with a safety cage built to FIA Article 253 specifications or be FIA homologated under the latest international regulations and accompanied by original certification documentation (older homologated cages are not all valid for a newly built vehicle). See www.fia.com, under Sport, Regulations, International Sporting Code, Appendix J Article 253, Article 8.
- Alternate material to CDS (Cold Drawn Seamless): Although FIA Article 253.8.3.3 specifies the safety cage material as CDS (Cold Drawn Seamless), DOM (Drawn-Over-Mandrel) tubing may be used as an alternate material in respect to the following: Main roll bar, front roll bar, lateral roll bars, lateral half roll bars, their connections (drawings 253-1-3) and one continuous door bar per side will be at least 1.75"x.095". All other parts of the safety cage will be at least 1.5" x 0.095".
- Existing log-booked rally vehicles that have roll cages built to 2006 Rally America roll cage specifications will remain valid for competition use until further notice.



- 2.2.3. Protective Padding:
- 2.2.3.1. All tubing forward of the main hoop in the roofline must be padded. Any other tubing which may contact the helmet while seated must also be padded. Padding must comply with FIA Standard 8857 2001, type A (see technical list n 23 "Roll Cage Padding Homologated by the FIA") or SFI 45.1 Specification.
- 2.2.4. Batteries.
- 2.2.5. Batteries must be securely mounted.
- 2.2.6. If removed from the original location, all lead-acid batteries shall be mounted inside covered, non-conductive boxes and equipped with leak proof caps. The hot terminal shall be insulated in all vehicles. All batteries must be securely attached to the primary structure of the vehicle.
- 2.2.7. Master Electrical Disconnect Switch.
- 2.2.8. Effective 1-1-2019 a spark-proof master electrical disconnect switch with the capability of disconnecting all electrical circuits shall be mounted in the passenger compartment. (The integrity of a fuel injection computer may be protected by supplementary wiring.)
- 2.2.9. The location of the master electrical disconnect switch shall be that which makes it easily operable by either crew member or by persons outside the vehicle through either front door and shall be marked with a label showing a red spark in a white-edged blue triangle with a base length of at least 4 ins
- 2.2.10. The switch must effectively shut down all systems including alternator and engine.
- 2.2.11. Windows.
- 2.2.12. The windshield shall be laminated safety glass.
- 2.2.13. 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. For cars equipped with glass side windows on or more window-breakers must be accessible to the driver and co-driver.
- 2.2.13.1. Windows in the driver and co-driver doors must not be rolled down more than 1 inch during stages.
- 2.2.13.2. Window safety nets must be used in lieu of having windows rolled-up during stages. (See illustration for proper window net installation). All window nets must meet FIA article 253 or SFI 27.1 certification
- 2.2.13.3. The use of translucent and colourless anti-shatter films is highly recommended in side and rear windows. The use of silvered or tinted anti-shatter films is also permitted. In all cases, the maximum tint shall be 50%.



- 2.2.13.4. Glass side windows may be replaced with polycarbonate material of at least 3mm thickness. However, 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.
- 2.2.14. Mud flaps
Required on all rear wheels and driving wheels.
- 2.2.15. Fuel, fuel tanks and lines.
- 2.2.15.1. Only unleaded fuels are allowed. Leaded fuel and lead additives are expressly prohibited.
- 2.2.15.2. A fuel-resistant and fire-retardant plate or shield is required between the passenger compartment and the compartment(s) or area(s) in which the fuel tank, filler tube and fuel pump are located.
- 2.2.15.3. The original fuel tank may be used provided it remains in the OEM location secured by original systems.
- 2.2.15.4. The original fuel tank may only be replaced by an FIA- or SFI- approved fuel cell provided that:
- The original fuel tank is removed.
 - The fuel cell is properly vented to outside the vehicle from the compartment in which it is located.
 - Should the fuel cell and its filler be located in the luggage compartment, an outlet must be provided for fuel spilled in the compartment.
 - Where fuel cells are installed in the passenger compartment of vehicles such as "hatchback" variants, 2.2.15.2 above applies if the fuel cell filler is located in the passenger compartment.
 - There is no restriction on the size of the fuel tank.
- 2.2.15.5. Supplementary fuel tanks are not permitted.
- 2.2.15.6. If fuel lines are re-routed through the passenger compartment, they shall be in compliance with the following:
- 2.2.15.6.1. Shall incorporate a metallic casing. (If the metallic casing is not exterior to the line, a verifiable sample must be presented at scrutineering or be shown to comply with FIA Appendix J Art. 253.3)
- 2.2.15.6.2. Shall have a minimum of 200 psi rating. If fuel lines are routed through the passenger compartment by the manufacturer, they must be in compliance with this section.



- 2.2.15.7. Fuel pumps shall be isolated from the driver/co-driver by a fireproof metal bulkhead.
- 2.2.16. Towing eyes.
Towing eyes shall be attached to the front and rear of the vehicle and painted in yellow, red or orange. If under the car, the location shall be identified by a fluorescent arrow.
- 2.2.17. Loose articles.
All articles, which could be dangerous if left loose, must be securely restrained.
- 2.2.18. Door panels.
Inside front door panels or edge trim are required to provide protection from metal edges.
- 2.2.19. 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..
- 2.2.20. Supplemental & Passive Restraints.
Airbags and their associated equipment must be disabled or removed during competition in order to eliminate the possibility of the airbag inflating accidentally. It is recommended that passive restraint systems be disabled.
- 2.2.21. Ground Clearance
All parts of the vehicle, other than the tires, must have a minimum of 2 in clearance from a level road surface.
- 2.2.22. Power Door Locks
For all classes, power door locks must be rendered inoperative.
- 2.2.23. Steering Locking Device
For all classes, steering locking devices must be rendered inoperative.
- 2.2.24. Exhaust system.
 - 2.2.24.1. The maximum permitted noise level from the exhaust system during any transit shall be 94 dbA from a distance of 10 feet.
 - 2.2.24.2. The maximum permitted noise level from the exhaust system with the engine idling at 3500 RPM and the vehicle stationary shall be 86 dbA, measured from a distance of 50 ft.
 - 2.2.24.3. Unless a car was manufactured before a catalytic converter was required in the U.S.A., then a functioning catalytic converter must be retained or installed.
(Burden of proof that a catalytic converter is not required for a particular vehicle



rests with the competitor and should be furnished to the ARA Competition Director so that an exemption waiver may be added to the vehicle log book.)

2.3 VEHICLE SAFETY EQUIPMENT

2.3.1. Seats

2.3.1.1. The use of hinged-back and OEM seats is prohibited.

2.3.1.2. All the occupants' seats must be homologated by FIA Standards 8855-1999 or 8862-2009, or be specifically designed for motor racing . All non-FIA seats are subject to acceptance by the event scrutineer .

2.3.2. Seat Mounting

2.3.2.1. Seats must be securely attached to the structure of the vehicle in such a manner as to prevent the movement of the seat in case of an accident. Seats may not be mounted with sliders.

2.3.3. Safety Harness.

2.3.3.1. A five, six or seven point unmodified safety harness of proprietary manufacture, meeting the specifications below, shall be fitted for both crew members.

2.3.3.2. All harness systems must be capable of being released through one latch.

2.3.3.3. The harness shall be worn at all times when the car is in motion on a special stage and on all transits when legally required in the State being driven in.

2.3.3.4. Safety harness will meet one of the following standards:

- FIA Standard 8853/98 or 8853/2016
- SFI 16.1 Specification
- SFI 16.5 Specification

2.3.3.5. Safety harnesses may not be used after their expiration date. For harnesses with dual FIA/SFI certification, the FIA expiration date shall take precedence.

2.3.3.6. It is not permitted to mix parts of seat belts. Only complete sets may be used.

2.3.3.7. The material of all straps shall be in new or perfect condition.

2.3.3.8. The belts must be equipped with turn buckle, push button or latch/link release systems.

Safety Harness Installation

2.3.3.9. The lap belt and crotch straps should not pass over the sides of the seat, but through the seat in order to wrap and hold the pelvic region over the greatest possible surface.

2.3.3.10. The lap straps must fit tightly in the bend between the pelvic crest and the upper thigh. Under no circumstances may they be worn over the region of the abdomen.

2.3.3.11. Care must be taken that the straps cannot be damaged through chafing against sharp edges.



- 2.3.3.12. In all cases, it is most preferable that safety harnesses be installed on the anchorage points of the vehicle. The recommended geometrical locations of the anchorage points are shown in FIA drawing 253-42.
- 2.3.3.13. It is prohibited for the seat belts to be anchored to the seats or their supports.
- 2.3.3.14. In the downwards direction, the shoulder straps must be directed towards the rear and must be installed in such a way that they do not make an angle of more than 45° to the horizontal from the upper rim of the backrest, although it is recommended that this angle should not exceed 10°. The maximum angles in relation to the centre-line of the seat are 20° divergent or convergent. (see FIA diagram 253-42)
- 2.3.3.15. Anchorage points creating a higher angle to the horizontal must not be used unless the seat meets the requirements of the FIA standard. (If the seat does not provide lateral restraint, the mounting point on the vehicle structure shall be a minimum of 50 cm behind the seat back when measured along the belt.)
- 2.3.3.16. If the manufacturer provides for safety wiring the locking bale to prevent accidental unfastening of the belts from their anchorage points, then it shall be necessary for the all such components to be safety wired.
- 2.3.3.17. The minimum acceptable size and grade of bolt used in the mounting of all belts and harnesses shall be 7/16 inch UNF, SAE grade 8 or M12 8.8. When mounted, the bolts should work in shear and not in tension.
- 2.3.3.18. The straps may be attached by looping or by screws, but in the latter case an insert must be welded for each mounting point (see FIA drawings 253-17C and 253-53 for the dimensions). These inserts will be positioned in the reinforcement tube and the straps will be attached to them using bolts of M12 8.8 or 7/16 UNF specification.
- 2.3.3.19. For each new anchorage point created, a steel reinforcement plate with a surface area of at least 6 sq ins and a thickness of at least 1/8 in must be used.
- 2.3.3.20. Principles of mounting to the chassis/monocoque:
- General mounting system: see drawing 253-43.
 - Shoulder strap mounting: see drawing 253-44.
 - Crotch strap mounting: see drawing 253-45.
- A safety harness must be used in its homologation configuration without any modifications or removal of parts, and in conformity with the manufacturer's instructions.
- 2.3.3.21. The effectiveness and longevity of safety belts are directly related to the manner in which they are installed, used and maintained. 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. They must also be replaced if metal parts or buckles are bent, deformed or rusted. Any harness which does not function perfectly must be replaced.

2.3.4. Fire extinguishers.

2.3.4.1. All cars must be equipped with one of the following:

- A. An “on-board” system that uses either manual or automatic activation along with one hand held bottle.
- All bottles will be secured using a metal strap and have a fill gauge that is visible for scrutineering.
 - All such systems will be installed and serviced in accordance with the manufacturer’s instructions. In addition, a hand-held extinguisher of at least 10 B:C rating shall be installed in accordance with 2.3.4.2 below.
 - The fire system cylinder shall be securely fastened, in such a manner that it can be checked during a technical inspection and may be removed periodically for weighing.
 - 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.
- B. Two hand held fire extinguishers with a minimum UL rating of 10 BC each.
- All bottles will be secured using a metal strap and have a fill gauge that is visible for scrutineering.
 - Each must be installed inside the passenger compartment. During installation, consideration must be given to quick release and security of attachment.
 - One fire extinguisher must be located within easy reach of the Driver or Co-Driver when seated.

2.3.4.2. If a dry powder unit is used, the unit must bear certification that it has been serviced annually. All extinguishers shall be equipped with a visible indication of the state of charge. All extinguishers shall be approved for vehicular use by the DOT, U.S. Coast Guard, SFI or FIA.

2.3.4.3. A fire extinguisher label (available through ARA) must be placed on the outside of the vehicle, on a non-glass surface, at the nearest point of access to a fire extinguisher.

2.3.5. First aid kit.

2.3.5.1. A comprehensive first aid kit shall be carried in the passenger compartment.



- 2.3.5.2. The first aid kit must be easily accessible, clearly identified and the complete kit easily/quickly removable by hand. It is recommended that the first aid kit be accessible from both sides of the car and from the seated position.
- 2.3.5.3. A first-aid kit label (available through ARA) must be placed on the outside of the vehicle, on a non-glass surface, at the nearest point of access to a first-aid kit.
- 2.3.6. Warning devices.
Three self-supporting, light-reflecting, daylight-visible triangular warning devices of a minimum size of 12 ins per side shall be carried in the vehicle. One of these must be located within easy reach of the Driver or Co-Driver when seated.
- 2.3.7. Tow Rope.
All vehicles must carry a tow rope or winch with cable. All parts of the tow rope must be within the competition vehicle at all times while the tow rope is not in use.
- 2.3.8. 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. As well, the camera shall be secured at a minimum of two different points.
- 2.3.9. Belt Cutters/glass breakers
One or more belt cutters and glass breakers must be carried in the vehicle within reach of both driver and co-driver while safety harnesses are being worn. The seat belt cutter must be designed specifically for cutting seat belts.
- 2.3.10. Spill Kit
All cars in ARA events must carry a spill kit consisting of at least: a minimum of 2 - 15" x 19" (standard) absorbent pads, 1- 3" X 48" Hydrocarbon sock. All items will be contained in a heavy duty plastic bag that is re-sealable.
- 3. GENERAL REGULATIONS**
- 3.1 Bodywork.
- 3.1.1. Bodywork must be without visible damage or perforation from corrosion which would detract from the good appearance of the vehicle.
- 3.1.2. The general shape and location of bumpers may not be changed.
- 3.1.3. Tires must be fully covered when viewed from above.
- 3.1.4. Spoilers, plates or wings may not extend beyond the body as viewed from above nor extend above the roof line by more than 3 inches when viewed from the side. Devices forward of the windshield must be below the hood line when viewed from the side. ARA technical inspectors reserve the right to refuse any aerodynamic component based on safety concerns.



- 3.1.5. Paintwork must be finished and of neat appearance. Primer paint is not acceptable.
- 3.2 Identification of Vehicles and Crew
 - 3.2.1. All competing vehicles in stage events shall be identified in accordance with the 2018 ARA Vehicle Graphics Standards.
 - 3.2.2. An area 24 inches wide by 20 inches high, starting with the lead edge of the front doors and from the top of the door panel downwards shall be reserved for exclusive use for the installation of the ARA door panels and Event Sponsor decals. Door numbers shall meet Vehicle Graphics Standards.
 - 3.2.3. The name of the driver and the co-driver must appear on the rear side windows of the car as shown in the Standards. Letters for the crew's names must be white, 2 inches in height in upper and lower-case Helvetica bold face. The national flag of each crew member must appear adjacent to the name.
 - 3.2.4. The top 4 inches of the windscreen is reserved for use by ARA and/or its sponsors. No other advertising is permitted anywhere on the windshield. Competitors have the option of installing a solid black background at the top of the windshield. The sponsor's decal is installed over this background.
 - 3.2.5. An area 24 inches wide by 10 inches high at the front center of the hood is reserved for the exclusive use of the ARA Series Sponsors.
- 3.3 Lights
 - 3.3.1. Headlights must comply with the legal requirements of the state of registration.
 - 3.3.2. A headlight shall be considered as any lighting device throwing a beam toward the front of the vehicle (low-beam, high-beam, fog lamp). Auxiliary headlights may be installed. These lights may be fitted into the bumpers, radiator grillwork or the front part of the bodywork, provided that such openings as needed in this case are completely filled by the lights fitted. All auxiliary lights shall be mounted no higher than the top of the hood.
 - 3.3.3. It must not be possible to operate any manufacturer fitted fog lights fitted without the front marker lights and tail lights operating.
 - 3.3.4. All reversing lights may only switch on by engaging reverse gear.
- 3.4 Tire studs.

Studs or other hard material devices inserted into the tire are not permitted unless approved studs are allowed under local state law and as detailed in the event Supplementary Regulations.
- 3.5 Documentation.

The following documentation shall be carried in the vehicle at all times:



- Vehicle registration.
- Proof of third party liability insurance covering the entered vehicle.

3.6 Canadian Vehicles.

3.6.1. Vehicles registered in Canada, where the driver is competing on an ARA entry permit, shall be acceptable to compete in ARA events provided that they meet the requirements of current CARS Regulations. The entrant of such vehicles must be able to produce a copy of the CARS regulations to demonstrate that their vehicle is in compliance with those regulations.

3.6.2. Failure to produce these regulations may result in vehicle being judged according to ARA regulations.

3.6.3. Canadian vehicles entered in ARA rallies shall be classified by ARA vehicle class regulations.

3.6.4. Vehicle Eligibility

The vehicle must be based on a model built by a recognized manufacturer. The manufacturer must be listed in the NADA Official Used Car Guide. It is the intent of these rules that all vehicles be based on production vehicles. Eligibility is restricted to street-licensed, closed-bodied vehicles. Non-production-based vehicles built from the ground up, are explicitly prohibited.



Table A

class	engine	max disp	restrictor	min weight
Open 4WD	forced ind	2600	34 mm @ 32 PSI	2900
	nat asp	3300	none	2900
	nat asp	4500	none	3200
	nat asp	6300	subject to Technical Review of specific engine proposals	3200
Naturally Aspirated 4WD	nat asp	2500	none	2600
	nat asp	3300	none	2900
Limited 4WD	forced ind	3000	34mm @ 32 PSI	3100
	forced ind	3000	36mm @ 22 PSI	3100
	nat asp	2800	none	3100
	nat asp	6300	none	3300
Open 2WD	forced ind	1800	none	1950
	forced ind	2600	none	2200
	forced ind	3500	none	2800
	rotary	2600	none	2200
	nat asp	1800	none	1950
	nat asp	4500	none	2100
	nat asp	6300	none	2800
Limited 2WD	forced ind	1600	none	2300
	nat asp	2500	none	2200



VEHICLE CLASSES

4. VEHICLE CLASSES

- 4.1 All Open Classes (Open 4WD, Naturally Aspirated 4WD, Open 2WD)**
- 4.1.1. All class displacement and weight rules per Table A. The use of securely fixed ballast to complete the weight of the car is permitted.
 - 4.1.2. Must be a production-based chassis:
 - 4.1.3. Must retain a factory floor pan and firewall, modifications for alternate components is allowed.
 - 4.1.4. Roof, A & B pillars must be metallic and retain factory profile. C pillars must retain factory profile. Fenders and quarter panels may be modified or replaced but must cover tires completely as viewed from above.
 - 4.1.5. Wheel base may not be modified more than 3.0" +/- from factory specification.
 - 4.1.6. Engine may be moved but the OEM engine location (in front or behind) in relation to driver must remain.
 - 4.1.7. Fuel must be Gasoline, Ethanol, or Diesel based.
 - 4.1.8. Alternative fuels (E.G. Propane, Electrical) must be pre-approved by ARA Technical Committee minimum 45 days before event.
 - 4.1.9. The following components may not be electronically controlled or actuated: Suspension, braking, gear change, clutch, front and rear differentials. A simple engine cut is permitted during a mechanically activated gear change.
 - 4.1.10. Suspension dampers must be guided by solid bushings, roller bearings for liner guidance are not allowed.
 - 4.1.11. Turbocharger must only be driven by exhaust gasses.
 - 4.1.12. Any requests for exceptions to published rules must be submitted to the ARA Technical committee no less than 45 days before event.
Tech@americanrallyassociation.org

4.2 Open 4WD

- 4.2.1. Vehicles which do not comply with current Open 4WD class rules including FIA vehicles may be allowed to compete -- competitors must request approval a minimum of 45 days prior to event
- 4.2.2. Engine, transmission and chassis manufacturer need not match.
- 4.2.3. 4.5 – 6.3 liter engine airflow restrictor no more than 50 mm from throttle body inlet as measured along centerline of airflow path. All air entering the engine must pass through the restrictor. Restrictor sizing will be established for specific engine proposals such that targeted engine output levels will not be exceeded.



Proposals to be submitted per item 7 above. For normally aspirated engines, the throttle bore size may be specified in lieu of a restrictor.

- 4.2.4. Rotary engines are restricted to twin rotors and subject to a displacement multiplier of 1.8.
- 4.2.5. Turbocharger/Supercharger Restrictions.
- 4.2.5.1. Forced induction engines must have an air inlet orifice of 34mm diameter or less either through manufacture or by the use of a restrictor. This restrictor must have a minimum width (parallel to the air flow path) of 3 mm and must be located within 50 mm of the compressor wheel. All air entering the engine must pass through the restrictor.
- 4.2.5.2. Must provide 1/4" female pipe fitting within 40mm of MAP sensor for ARA use. The Table A indicated manifold pressure limit is gauge pressure.
- 4.2.5.3. If a car is fitted with multiple induction systems, then the total area of the two restrictors cannot exceed the area of the restrictor listed above.
- 4.2.5.4. Competitors must have in place a mechanism to allow the induction system to be sealed by the use of wire and ARA seals.
- 4.2.5.4.1. With the wire and seal in place, it must be impossible to access the restrictor without removing the wire and seal.
- 4.2.5.4.2. The wire and seal cannot be installed without a detailed inspection of the restrictor
- 4.2.5.4.3. Without the seal being in place, competitors must be prepared to dismantle the induction system to allow for verification of compliance with the rule above
- 4.2.5.5. The storage of boost (i.e. an accumulator) is not permitted.
- 4.2.6. Bodywork.
- 4.2.6.1. Driver and co-driver doors must be structurally unaltered. If the original structure has been removed or altered, either a door panel that is compliant with FIA drawing 255-14 must be installed or the safety cage must include a sill bar plus 2 continuous door bars containing four vertical studs. Homologated roll cages may not be modified. All sharp edges must be protected by a door panel, edge guard, or similar.
- 4.2.7. Electronic Controls
- 4.2.7.1. No type or form of electronic control is permitted for the following components: Suspension, Braking, Gear-change, clutch, front and rear differentials. Simple engine cut operating during a mechanically activated gear change is permitted. O.E Electronic rear differential is permitted.



4.3 Naturally Aspirated 4WD Class

- 4.3.1. Engine must be normally aspirated. Engine block and chassis manufacturer must match. Transmission manufacturer is free.
- 4.3.2. Must conform to all 4WD Open Class rules except those pertaining to forced induction

4.4 Limited 4WD Class

- 4.4.1. Vehicle must have been manufactured as 4WD
- 4.4.2. Bodywork must be OEM with regard to materials and appearance. Vents for cooling or cabin air flow allowed.
- 4.4.3. Hoods may be alternate materials.
- 4.4.4. Seam welding and strengthening of suspension points are allowed
- 4.4.5. Unibody chassis must remain intact as manufactured without weight reductions. Mounting tabs and unnecessary brackets may be removed, but the major unibody structure must remain.
- 4.4.6. Tunnels may be modified to accommodate improved exhaust clearance or other required components.
- 4.4.7. Rear subframe must remain OEM. Only one connection point per side may be moved.
- 4.4.8. Strut/Shock towers may be raised upward no more than 3.5" in the axis of travel only. OEM tower walls must remain.
- 4.4.9. Front door structure cannot be modified, although interior door cards are free.
- 4.4.10. No modifications of the wheel tubs. Rolling the wheel arches is allowed, no flaring.
- 4.4.11. Front and rear subframes must be OEM. Strengthening is allowed by welding only. Material may only be added, none removed, must retain OEM profile.
- 4.4.12. Suspension dampers are free except they must be guided by solid bushings (roller bearings for linear guidance are not allowed) and must use OEM (or raised per 3.d) mounting locations with front and rear hubs remaining OEM.
- 4.4.13. Hubs may be otherwise altered to accommodate permitted modifications
- 4.4.14. Control arms must maintain OEM dimensions and geometry. Replacement arms must not add additional track width to the vehicle.
- 4.4.15. Engine must have been normally available in the same model range from manufacturer.
- 4.4.16. Cylinder heads must be OEM and match the engine. Porting of cylinder heads or rotor housings is not allowed.



- 4.4.17. Valves and valve spring retainers must be OEM with respect to materials and dimensions. Camshafts and valve springs are free.
- 4.4.18. Standard crank must remain OEM.
- 4.4.19. Turbocharger/Supercharger Restrictions.
- 4.4.19.1. Turbocharger including wheels, shafts and bearings must remain OEM. Compressor housings may be modified the minimum amount necessary to accept a mandatory restrictor. Housings may be rotated.
- 4.4.19.2. Turbochargers must be driven by exhaust gasses only. No secondary injection of air, fuel, or otherwise to maintain turbocharger speed.
- 4.4.19.3. Forced induction engines must have an air inlet restrictor no greater than listed in Table A. This restrictor must have a minimum width (parallel to the air flow path) of 3 mm and must be located within 50 mm of the compressor wheel. All air entering the engine must pass through the restrictor.
- 4.4.19.4. Must provide 1/4" female pipe fitting within 40mm of MAP sensor for ARA use. The Table A indicated manifold pressure limit is gauge pressure.
- 4.4.19.5. Competitors must have in place a mechanism to allow the induction system to be sealed by the use of wire and ARA seals. With the wire and seal in place, it must be impossible to access the restrictor without removing the wire and seal.
- 4.4.19.6. The wire and seal cannot be installed without a detailed inspection of the restrictor
- 4.4.19.7. Without the seal being in place, competitors must be prepared to dismantle the induction system to allow for verification of compliance with the rule above
- 4.4.20. The intercooler may be replaced and relocated within the original bodywork.
- 4.4.21. Throttle body, and manifolds are free.
- 4.4.22. Exhaust system free. Must include catalyst and tail pipe must exit at the rear of the vehicle.
- 4.4.23. Engine cooling systems are free but must remain in the OEM mounting location
- 4.4.24. Flywheel and clutch are free.
- 4.4.25. Transmissions and Transaxles do not need to match year and model.
- 4.4.26. Sequential shift allowed.
- 4.4.27. An aftermarket LSD type locking diff is allowed.
- 4.4.28. The rear drive system must maintain the original design concept (i.e. live axle vs. IRS) and body mount locations but is otherwise free, including differential, ratio and housing.
- 4.4.29. Electronics are free. No traction control, unless as fitted by manufacturer (OEM system).



- 4.4.30. Vehicles must meet minimum weight per Table A. The use of securely fixed ballast to complete the weight of the car is permitted.
- 4.4.31. Vehicles must conform to all other applicable ARA Technical Rules
- 4.4.32. Exceptions to these rules, especially to cars built prior to the 2018 season must be requested to the ARA technical committee no less than 45 days before the event. Requests may be made to: tech@americanrallyassociation.org
- 4.4.33. Water injection is prohibited
- 4.4.34. Dry sump oil systems may only be used if it is OE for the car.
- 4.5 Open 2WD**
 - 4.5.1. Car must be 2WD
 - 4.5.2. Rotary engines are restricted to twin rotors and subject to a displacement multiplier of 1.8.
- 4.6 Limited 2WD**
 - 4.6.1. Vehicle must have been manufactured as 2WD
 - 4.6.2. Bodywork must be OEM with regard to materials and appearance. Vents for cooling or cabin air flow allowed.
 - 4.6.3. Seam welding and strengthening of suspension points are allowed
 - 4.6.4. Unibody chassis must remain intact as manufactured without weight reductions. Mounting tabs and unnecessary brackets may be removed, but the major unibody structure must remain.
 - 4.6.5. Tunnels may be modified to accommodate improved exhaust clearance or other required components.
 - 4.6.5.1. Rear subframe must remain OEM. One connection point only may be moved.
 - 4.6.5.2. Strut/Shock towers may be raised upward no more than 3.5" in the axis of travel only. OEM tower walls must remain.
 - 4.6.5.3. Front door structure cannot be modified, although interior door cards are free.
 - 4.6.5.4. No modifications of the wheel tubs. Rolling the wheel arches is allowed, no flaring.
 - 4.6.6. Front and rear cross-members must be OEM. Strengthening is allowed by welding only. Material may only be added, none removed, must retain OEM profile.
 - 4.6.7. Suspension dampers are free except they must be guided by solid bushings (roller bearings for linear guidance are not allowed) and must use OEM (or raised per 3.d) mounting locations with front and rear hubs remaining OEM.
 - 4.6.8. Hubs may be otherwise altered to accommodate permitted modifications
 - 4.6.9. Control arms must maintain OEM dimensions and geometry. Replacement arms must not add total track width to the vehicle.



- 4.6.9.1.1. Engine must have been normally available in the same model range from manufacturer.
- 4.6.9.1.2. Cylinder heads must be OEM and match the engine. Porting of cylinder heads or rotor housings is not allowed.
- 4.6.10. Valves and valve spring retainers must be OEM with respect to materials and dimensions. Camshafts and valve springs are free.
 - 4.6.10.1.1. Standard crankshaft must remain OEM.
 - 4.6.10.1.2. Rotary engines are restricted to twin rotors and subject to a displacement multiplier of 1.8. Peripheral porting is not permitted.
 - 4.6.10.1.3. Dry sump oil systems may only be used if it is OE for the car.
 - 4.6.10.1.4. Turbocharged engines must use OEM turbo and waste gate hardware. Turbo engines must have been factory equipped with turbocharger.
 - 4.6.10.1.5. Turbos must be driven by exhaust gasses only. No secondary injection of air, fuel, or otherwise to maintain turbocharger speed.
 - 4.6.10.1.6. The intercooler may be replaced but must utilize the original mounts in their original locations.
 - 4.6.10.1.7. Throttle body, and manifolds are free.
 - 4.6.10.1.8. Forced induction engine injectors must be OEM for the engine.
 - 4.6.10.1.9. Exhaust system free. Must include catalyst and tail pipe must exit at the rear of the vehicle.
 - 4.6.10.1.10. Engine cooling systems are free but must remain in the OEM mounting location
 - 4.6.10.1.11. Flywheel and clutch are free.
 - 4.6.10.1.12. Transmissions and Transaxles do not need to match year and model.
 - 4.6.10.1.13. No sequential shift allowed.
 - 4.6.10.1.14. An aftermarket LSD type locking diff is allowed.
- 4.6.11. The rear drive system must maintain the original design concept (i.e. live axle vs. IRS) and body mount locations but is otherwise free, including differential, ratio and housing.
- 4.6.12. Electronics are free. No traction control, unless as fitted by manufacturer (OEM system).
- 4.6.13. Vehicles must meet minimum weight per Table A. The use of securely fixed ballast to complete the weight of the car is permitted.
- 4.6.14. Vehicles must conform to all other applicable ARA Technical Rules
- 4.6.15. Exceptions to these rules, especially to cars built prior to the 2018 season must be requested to the ARA technical committee no less than 45 days before the event. Requests may be made to: tech@americanrallyassociation.org



5. VEHICLE LOG BOOKS

- 5.1 A standard ARA Vehicle Log Book shall be issued as requested for any new vehicle builds. Log books remain with the vehicle, including changes of ownership.
- 5.2 Only one log book is issued to each vehicle (other than by way of extension or replacement) and the possession of two log books for one vehicle at one time shall be deemed a breach of the GCRs.
- 5.3 The log book is issued by an ARA authorized Technical Inspector.
- 5.4 A complete description of the vehicle is to be entered in the places provided. All changes of ownership of the vehicle must be recorded as provided.
- 5.5 At each event, the log book must be surrendered to the chief scrutineer at scrutineering with the signature of the driver/entrant for that event in the space provided.
- 5.6 During scrutineering, any deviations should be noted by the chief scrutineer. All log books shall be retained by the chief scrutineer.
- 5.7 If a car is protested during an event, the results of this protest must be noted in the log book by the Steward(s)
- 5.8 If, during an event, the vehicle is involved in an accident or is damaged due to mechanical failure, the damage is to be noted in the Vehicle Log Book by the chief scrutineer.
- 5.9 It is the responsibility of the entrant to collect the log book at the end of the event. The Chief Scrutineer will release all log books once the steward “opens” the “end of event” Parc Fermé.
- 5.10 SCCA/RA/NASA Vehicle Log Books will be accepted at all ARA rallies. All cars must still pass ARA scrutineering.
- 5.11 Failure to present the Vehicle Log Book at scrutineering will result in a \$25.00 fine which must be paid in full before the offending entrant will be allowed to start the event.