



# General Regulations for Rallies

**v11**

**GRR Section 5**

## **RallyQuad(TM) Regulations**

Notice: The term "RallyQuad(TM)" refers to NASA Rally Sport's program allowing quads to compete in a stage rally format. RallyQuad(TM) is the NASA Rally Sport's brand of this kind of competition. Be sure to use the (TM) when referring to the program.

# **1 Quad Eligibility**

## **1.1 Quad Registration**

It is understood that quads are generally not street legal, and will not be required to present registration documents at registration.

## **1.2 Street Legality**

Allowing quads to compete at a rally within this rule set, by itself, grants no special legal authority for these vehicles to drive on public roads. Each rally must restrict quads to transiting only on routes where they are allowed, whether by permission of landowners, by applicable laws, or special permits issued by the appropriate authorities.

## **1.3 Quad Insurance**

It is understood that quads are generally not street legal, and will not be required to present submit insurance information at registration.

## **1.4 Quad Eligibility**

Quads are a four wheeled All Terrain Vehicle (ATV) with a seat that is straddled by the operator, along with handlebars for steering control. Vehicles must be production based quads constructed by a recognized national manufactures which are available for purchase by the general public. Exterior bodywork and pieces must be present and visually similar to the original components unless specifically allowed in these regulations. 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.

All vehicles must be inspected by a NASA Rally Sport Technical Inspector prior to the event.

No quads with two stroke engines are permitted.

No custom framed quads are permitted.

The engine and chassis must be of a matched design. Engine swaps or replacements with an equivalent stock engine are allowed. Replacing the engine with an engine different than the stock spec is not allowed.

All quads must use the stock frame or chassis without modifications including suspension attachment points.

## 2 Vehicle Preparation Regulations

All quads must meet these NASA Rally Sport RallyQuad(TM) Regulations. Each series or event may impose additional regulations.

### 2.1. General Requirements

Checks may occur at any time during the rally for the proper functioning of any equipment listed in these General Requirements. At any moment during the event it is each competitor's responsibility to prove to technical stewards or sporting stewards that their quad conforms to the regulations in their entirety.

### 2.2. Lights

1. One headlight minimum.
2. A red rear light and brake light.
3. All quads must have two front and two rear turn signals regardless of the state in which they are registered.

The headlight and taillight must be switched on throughout the race so as to facilitate overtaking of and by other competitors or organizers vehicles. Failure to respect this regulation will result in a one minute penalty per stage or transit where it is observed. All competitors are expected to carry necessary spares.

### 2.3. Wheels and Tires



#### Wheels

- a) The wheels are free, regarding the maximum and minimum diameter and width.
- b) Wheels made from forged magnesium are forbidden (including OEM magnesium wheels).
- c) Each wheel must have a maximum diameter of 10".
- d) Each wheel must have a maximum width of 9".



#### Tires for Gravel/Sand/Unpaved Events

- a) The choice of tire is free except that no "Blade" or "Sand" tires are permitted.
- b) Each tire must be a maximum of 23" in diameter.
- c) Inner tubes are allowed.
- d) The use of studded tires is forbidden for non-snow/ice events.
- e) 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. Mousse, Tireballs, or other non-standard inflation systems are prohibited.
- f) The interior of the tire (either within the inner tube or the space between the rim and internal part of the tire) must be filled only with air or nitrogen.

## Tires for Tarmac Events

Tarmac events will be limited by the following additional restrictions. All tires must be designed to work in a rain environment. *Examples* of legal tarmac tires are: Pirelli MT 90 A/T Scorpion, Michelin Anakee, Metzeler Tourance, Continental TKC-80, Pirelli MT60-R.

Tire choice is restricted:

- a. No racing slicks
- b. No knobblies
- c. No DOT knobblies
- d. The stock tire pattern must have grooves that begin within three quarters of an inch of the usable edge of the tire.
- e. Inner tubes are allowed.
- g) The use of studded tires is forbidden.
- h) Tarmac tires that are “full-dirt” or “100% dirt” are forbidden.
- i) Tarmac tires that are “full-street” or “100% street” are forbidden.
- j) 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. Mousse, Tireballs, or other non-standard inflation systems are prohibited.
- k) The interior of the tire (either within the inner tube or the space between the rim and internal part of the tire) must be filled only with air or nitrogen.

## Tires for Snow/Ice Events

- α) The choice of tire is free.
- β) Inner tubes are allowed.
- χ) The use of studded tires is allowed.
- δ) Stud length, as measured from the outer surface of the tire, is unrestricted.
- ε) Studs must be installed from the outside of the tire without piercing the inner wall of the tire.
- φ) The quantity of studs installed is unrestricted.
- γ) 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. Mousse, Tireballs, or other non-standard inflation systems are prohibited.
- η) The interior of the tire (either within the inner tube or the space between the rim and internal part of the tire) must be filled only with air or nitrogen.

## 2.4. Exhaust System

Even where the GRRs for a class authorize the replacement of the original silencer or complete exhaust system, quads participating on an event run on public roads must always be fitted with an exhaust silencer that conforms to the State and Federal regulations.

Any hot tubes must be efficiently protected so as to not to cause burns.

Exhaust systems must not be of a temporary nature. Exhaust gases must exit at the extremity of the system.

Parts of the frame may not be used to carry exhaust gases.

Spark arrestors are not required.

Noise limit testing procedure will be per SAE J2825. The maximum permitted noise level from the exhaust shall be 92db (A scale) at idle. During a slow RPM increase to 3500 the limit is 96 db (A scale). The measurement will be taken at a distance of 20 inches from the bike in an area 45 degrees either side from the centerline of the exhaust outlet.

## **2.5. Identification**

Each quad shall provide a 5" high by 8.5" wide space on each side of the quad for identification numbers. The organizer will provide numbers to be affixed to these spaces. Any other large numbers on the bike must be covered.

No indication of class is required.

## **2.6. Miscellaneous**

1. A horn with a 90 Db minimum noise level is required.

## **2.7. Navigation**

The following devices and items are allowed for use in navigating the course:

- α) The organizer-supplied 2.25" roll chart.
- β) The organizer-supplied route book.
- γ) The stock odometer.
- δ) An auxiliary odometer with visual output may be added or may replace the stock odometer. It is allowable that this additional odometer can be calibrated.
- ε) Paper maps.
- φ) GPS devices.

## **2.8. Engine**

The lower engine cases and crankshaft must be from a production engine. Preparation is free. Repairs during the race are free.

## **2.9. Frame**

The materials for frame construction are free, with the exception of titanium being excluded. Titanium is allowed for the rear sub-frame and seat support if originally specified by the manufacturer.

## 2.10. Modifications

Modifications not restricted elsewhere are free.

## 3. Classes

Four classes exist for quads:

| <b>Class</b> | <b>Displacement in cm<sup>3</sup></b> |
|--------------|---------------------------------------|
| 4WD          | Above 500.1                           |
| 4WD Lite     | Between 250.1 and 500                 |
| 2WD          | Above 250.1                           |
| 2WD Lite     | 250 and below                         |

## 4. Safety Requirements

### 4.1. Road Worthiness

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

- a) All brakes
- b) Horn
- c) Headlight and taillight
- d) Tires
- e) Exhaust system
- f) Front and rear indicators

### 4.2. Transporting Items

It is understood that within these rules, when referring to items, the word “carry” can mean any of the following:

- stowed within a compartment attached to the quad
- attached to the quad
- carried within the clothing worn by the rider
- carried within a pack worn by the rider

If the item is not to be stowed within a compartment or affixed to the quad, the rider must present at scrutineering all clothing or packs to be used.

### 4.3. First Aid Kit

A comprehensive first aid kit shall be carried. The first aid kit at a minimum must include:

- a) Antiseptic (ointment or liquid)
- b) Gauze pads or rolls
- c) Adhesive tape
- d) Elastic/Ace bandage
- e) Safety pins **or elastic clips for ace bandage**
- f) Scissors **or knife**
- g) one “space blanket”
- h) First aid manual.

### 4.4. Warning Devices

The rider must carry one standard, full-sized, warning triangle meeting Federal Motor Vehicle Safety Standard #125.

Each rider must carry a full color laminated 8.5”x11” ‘Green OK / Red Cross’ paper. Printing the following links and laminating them is sufficient.

<http://www.nasarallysport.com/organizer-resources/Route-Book-Red-Cross.pdf>  
<http://www.nasarallysport.com/organizer-resources/Route-Book-Green-OK.pdf>

The rider must demonstrate that it is possible to remove the warning devices from their storage location in under 30 seconds when the rider is in full gear.

#### **4.5. Auxiliary Fuel**

It is not permitted to carry fuel either within a pack worn by the rider or within the rider's clothing. Any auxiliary fuel tank must be mounted to the quad.

#### **4.6. Helmets**

All helmets must be full-face non-hinged helmets. Certifications accepted are:

- a) USA SNELL M 2000
- b) USA DOT
- c) Europe ECE 22-04
- d) Europe ECE 22-05 'P'
- e) Great-Britain BS 6658 GRADE A
- f) Japan JIS T 8133 : 2000

#### **4.7. Body Protection**

Over the entire route wearing of back and front body armor is compulsory. Over the entire route the wearing of back and/or neck protectors is strongly recommended.

For paved events, full leathers with armor are highly recommended. Standard nylon mesh pants are not permitted. The preferred materials if leather is not used are Cordura or Kevlar with a Denier measurement of 1000 or better. In all cases where the pants and jacket are two separate pieces the two pieces must attach to each other securely. Also permitted are:

- Kevlar race suits
- heavy duty (enduro) jacket
- motocross pants with armor

#### **4.8. Boots**

Motocross-style boots must be worn. Construction boots, road boots, touring boots, road racing boots, or similar are not acceptable.

#### **4.9. Equipment for Night Stages**

In order to compete on a stage, when the rider's ideal start time is after 15 minutes before civil twilight the rider must have reflective material with at least 10 square inches on the front and rear (20 square inches total) of the torso or head. Additional material on the helmet and quad is recommended. If the rider is carrying a backpack, none of the material covered by the backpack is counted toward the total. Example of acceptable material: 3M Scotchlite.

Each rider must have a pair of flashing lighting sources whose energy source is independent of the motorcycle to be affixed to the rider somewhere above the waist. Example: flashing bicycle lights or flashing head lamps.

Riders without this equipment will transit the stage and be assigned the time of the slowest competing quad.

## **5. GRR Applicability**

The entirety of the GRR, excluding Section 3 (the technical regulations for four wheeled automobiles), shall apply to RallyQuad(TM) competitors. While the GRR Sections 1 and 2 are written to be "vehicle-neutral" with respect to the wording of "car" versus "quad" it is to be understood that the all GRRs concepts apply to quad riders. It is to be understood that the single RallyQuad(TM) competitor is also the driver and the navigator, as applicable, and thus constitutes the Crew or Team, when considering Section 1 and Section 2.

Common sense exceptions:

2.17.7.1 – Warning Triangles. As the rider has only one triangle, the rider must place their only triangle 150' behind the bike.