



Rally Sport

**General
Regulations
for
Rallies**

2010

GRR Section 4

RallyMoto(TM) Regulations

Notice: The term "RallyMoto(TM)" refers to NASA Rally Sport's program allowing motorcycles to compete in a stage rally format. RallyMoto(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 Motorcycle Eligibility

1.1 Motorcycle Registration

Each motorcycle entered in a NASA Rally Sport event must have a current and valid motorcycle registration.

1.2 Street Legality

Every motorcycle must carry all the equipment required by State and Federal laws to operate on the public highways of the state within which the rally is occurring. Required equipment must remain in working operation throughout the running of the event. Any modifications authorized by these rules must still be street legal.

1.3 Motorcycle Insurance

All motorcycles entered must have coverage meeting or exceeding the minimum insurance coverage levels required by the state in which the motorcycle is registered.

1.4 Motorcycle Eligibility

Motorcycles eligible for events must be production based two wheel vehicles. Custom bikes specially built from the ground up for competition use are prohibited. To this end, the frame must remain original but may be modified to accommodate authorized additional equipment. Exterior panels, including fenders and cowlings, must be present and visually similar to the original components.

No motorcycles with two stroke engines are permitted.

Sport bikes are prohibited, only upright seating style bikes are permitted.

Side cars are prohibited.

2 Vehicle Preparation Regulations

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

1.1 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 motorcycle conforms to the regulations in their entirety.

1.2 Lights

- a) One headlight minimum.
- b) A red rear light with a minimum of a single 21 watt or greater bulb, or multiple lights adding up to 21 watts or more. The use of halogen bulbs recommended.
- c) A FIM-homologated rear stop light is recommended.
- d) All motorcycles 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.

1.3 Wheels and Tires

1.3.1 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).

1.3.2 Tires for Gravel/Sand/Unpaved Events

- a) The choice of tire is free.
- b) Inner tubes are allowed.
- c) The use of studded tires is forbidden for non-snow/ice events.
- d) 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.
- e) 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.

1.3.3 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 knobbies
- c. No DOT knobbies
- 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.
- f) The use of studded tires is forbidden.
- g) Tarmac tires that are “full-dirt” or “100% dirt” are are forbidden.
- h) Tarmac tires that are “full-street” or “100% street” are forbidden.
- i) 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.
- j) 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.

1.3.4 Tires for Snow/Ice Events

- a) The choice of tire is free.
- b) Inner tubes are allowed.
- c) The use of studded tires is allowed.
- d) Stud length, as measured from the outer surface of the tire, is unrestricted.
- e) Studs must be installed from the outside of the tire without piercing the inner wall of the tire.
- f) The quantity of studs installed is unrestricted.
- g) 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.
- h) 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.

1.4 Exhaust System

Even where the GRRs for a class authorize the replacement of the original silencer or complete exhaust system, motorcycles 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.

1.5 Identification

Each motorcycle shall provide a 5" high by 8.5" wide space on each side of the motorcycle 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.

1.6 Miscellaneous

- a) A horn with a 90 Db minimum noise level is required.
- b) A rear mirror is required.

1.7 Navigation

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

- a) The organizer-supplied 2.25" roll chart.
- b) The organizer-supplied route book.
- c) The stock odometer.
- d) 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.
- e) Paper maps.
- f) GPS devices.

2 Classes

Four classes exist for motorcycles:

Class	Displacement in cm3	Sub class	Rules To Use
Heavy	800 or more	none	3.1 Modified Class
Medium Modified	Between 400 and 800	Modified	3.1 Modified Class
Medium Stock	Between 400 and 800	Stock	3.2 Stock Class
Lite	400 or less	none	3.1 Modified Class

2.1 Modified Class

2.1.1 Definition

This group is comprised of machines derived from motorcycles to which certain modifications have been made and / or parts added that make them no longer eligible for the Stock class, as well as machines produced in small numbers.

2.1.2 Engine

The lower engine cases and crankshaft must be from a production engine available on a motorcycle that would be eligible for Stock class. Preparation is free. Repairs during the race are free.

2.1.3 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.

2.1.4 Modifications

Modifications not restricted elsewhere are free.

2.2 Stock Class

2.2.1 Definition

- a) Motorcycles generally available for purchase by the general public, with limited modifications to make them more suitable for competition with respect to safety and reliability only.
- b) There must be at least 200 units of the specific make and model and of a specific model year commercially available in the United States. Commercially available 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.

- c) Machines in the Stock class must be standard, as delivered by the manufacturer. Machines must conform in all ways to the commercial catalog issued by the manufacturer and be freely available for sale.
- d) Following a report by the Stewards, the event reserves the right to accept or not a machine in this group.
- e) Parts may be removed by Stewards so as to be checked at any time during the event.

2.2.2 Engine

The engine must be stock, along with fuel system (carburetor or EFI) and accessories (alternator, starter, and the complete ignition system). It must remain as originally constructed.

2.2.3 Frame

The materials for frame construction are free, with the exception of titanium being excluded.

2.2.4 General Requirements

All technical modifications are forbidden if they are not expressly authorized.

The original repair manual (as used by dealers – no photocopies accepted) should be presented at the same time as the machine during scrutineering. Riders presenting bikes of questionable legality without documentation will be moved to Modified class.

Changing parts during the event with standard parts is free.

2.2.5 Authorized Modifications

All items, which are not specifically allowed or referred to as free below, must be of original manufacturer's specification. Minor changes (such as a hole in the fairing, etc) resulting from authorized modifications are permissible.

It is the entrant's responsibility to provide specification documents, where necessary, to substantiate the eligibility of all components, which were added under the following authorized modifications and might have an influence on performance. The specification documents must demonstrate both function and capability of the component.

The following items are free and may be modified:

2.2.6 Free Mechanical Items

- a) The presence of the speedometer and rev counter, provided that their location is used to fit navigation accessories and that the speed of the machine can be checked by the rider.

- b) The handlebar along with levers, handlebar clamps and cables, if they are featured in the constructor's catalog. If the diameter of the handlebar is different from that of standard, only handlebar mounts sold for this type are acceptable. All modification or machining of clamps is forbidden.
- c) The choice of exhaust silencer is free, but if changed during the event must be replaced with an identical model.
- d) The fitting of a steering damper.
- e) Fuel tanks.
- f) Water tanks (but not the means of engine cooling).
- g) The air filter. The air box and its layout must remain standard. The location of the air intake is free and may be moved.
- h) The seat.
- i) One rear mirror may be removed if two are fitted as standard.
- j) The luggage rack.
- k) Stand cut out switches.
- l) The size of the foot pegs (if featured in the constructor's catalog).
- m) The dimensions of the brake pedal (if featured in the constructor's catalog).
- n) The reinforcement of the standard kick start.
- o) Secondary transmission (engine sprocket, rear sprocket, chain). Only the width of the chain may be changed, not the throw.
- p) Brake pads, brake hoses and brake fluid.

2.2.7 Free Suspension Items

- a) Valving within the shock absorbers. The shock body must remain stock.
- b) Fork springs (the stanchions, tubes and fork yokes must be standard).
- c) The rims and spokes of the wheels may be changed for reinforced parts provided the hub remains standard.
- d) Competitors are allowed to fit a kick start, in addition to an electric starter, providing there is the possibility to do so within the model range and that the parts are featured in the manufacturer's catalog.

2.2.8 Free Protections Items

- a) The presence of a headlight protection grill.
- b) The engine bash plate.
- c) The presence of hand protectors.
- d) The presence of fork protectors.
- e) The presence of brake protectors.

2.2.9 Free Electrical Items

- a) The headlight and rear light.
- b) Modifications to the electrical system, so as to fit the headlight.
- c) Modifications to the electrical system, so as to fit the indicators.

- d) Modifications to the electrical system, so as to fit the rear light.
- e) Spark plugs.

2.2.10 Additional Accessories

All accessories, which have no influence on the motorcycle's behavior, for example, equipment that improves the aesthetics or comfort of the motorcycle, are allowed without restriction. In no case may these accessories increase the engine power or influence the steering, transmission, brakes, or road holding, even in an indirect fashion. All controls must retain the role laid down for them by the manufacturer. They may be adapted to facilitate their use and accessibility, for example a longer brake lever, an additional flange on the clutch pedal, etcetera. The following items are explicitly allowed:

- a) Measuring instruments such as gauges may be added.
- b) Fasteners and their locking mechanism are free.
- c) Any locking system may be used for the cap of the petrol tank.

2.2.11 Forbidden Modifications

Any modification not authorized above is implicitly forbidden. In addition to any implicitly forbidden modifications, the following modifications are explicitly forbidden:

- a) All modifications increasing the performance of the engine, clutch, or primary transmission. The cooling system, in its entirety, and the original starting system must be conserved.
- b) All modifications to the electrical circuit other than those mentioned as free.
- c) All modifications to the braking system other than those mentioned as free.
- d) All modifications or reinforcing of all or part of the frame, as well as all change of materials, except reinforcement designed to carry extra tanks or luggage racks.
- e) All changes of material, on whatever parts (even if these feature in the manufacturer's catalog) which do not correspond to that fitted as standard to the model in question. The year of reference being not that of registration as featured on the registration documents but that given by the manufacturer and corresponding to the series number.
- f) All changes to appearance, dismantling or taking off of parts, accessories or equipment other than those mentioned as free.

3 Safety Requirements

3.1 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, including all spares
- e) Exhaust system
- f) Front and rear indicators

3.2 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 motorcycle
- attached to the motorcycle
- 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 motorcycle, the rider must present at scrutineering all clothing or packs to be used.

3.3 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) Arm sling
- e) Safety pins
- f) Scissors
- g) one “space blanket”
- h) First aid manual.

3.4 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. The design must meet GRR Appendix A11 and A12, and is to be supplied by the rider.

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.

3.5 Auxillary Fuel

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

3.6 Helmets

All helmets must be full-face helmets. Each rider must wear at a minimum a FIM spec helmet. Certifications that meet this specification are:

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

3.7 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 tarmac events, full racing leathers are required. Two piece models that zip together are permitted in addition to single piece models. If the racing leathers do not have hard-shell spine protection built in to them, plastic armor protecting the spine must also be worn.

3.8 Boots

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

3.9 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 use any one of the following:

- a) Reflective tape with at least 10 square inches on the front and rear of the torso. Additional material on the helmet and motorcycle is recommended. If the rider is carrying a backpack, the pack must either have its own reflective material or not obscure the reflective material of the jacket. Example of acceptable material: 3M Scotchlite.
- b) A pair of lighting sources whose energy source is independent of the motorcycle, such as flashing bicycle lights or glow sticks, to be affixed to the rider somewhere above the waist.
- c) A "no motion" detector device. Example: American Airworks Super Pass II.

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

4 GRR Applicability

The entirety of the GRR, excluding Section 3 (the technical regulations for four wheeled automobiles), shall apply to RallyMoto(TM) competitors. While the GRR Sections 1 and 2 have been re-written to be "vehicle-neutral" with respect to the wording of "car" versus "motorcycle" it is to be understood that the all GRRs concepts apply to motorcycle riders. It is to be understood that the single RallyMoto(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.