64 Class Rules and Regulations

The following rules and regulations are presented for those designing and constructing vehicles for entry in the NEDRA 64 Class. This is an entry-level class with vehicles limited to a maximum of 64 lbs. battery weight. .

Preface

The following rules and regulations govern the design, construction, and operation of all 64 Class vehicles. These rules were developed for the safety of the participants. The rules must be followed by all participants at all times.

These rules modify the General NEDRA rules and thus modify the NHRA rules. A copy of the NEDRA rules as well as the NHRA rulebook are needed to have a complete set of rules.

In the 64 Class category of EV racers, there are two basic styles of vehicles. In style "A" the driver is belted into the vehicle and remains in the vehicle if a mishap occurs. In style "B" the driver is NOT belted into the vehicle and is likely to separate from the vehicle should a mishap occur. Special protective gear must be worn by the driver for any vehicle of style "B." The NHRA motorcycle rules apply for protective gear to be worn by the driver of a style "B" type vehicle.

Inspections

Each vehicle will be inspected before it is allowed to participate on the track.

Vehicles which do not conform to 64 Class regulations will not be allowed to race.

Drivers who cannot demonstrate compliance with 64 Class regulations will not be allowed to race

Voltage Classes

The 64 Class follows the existing NEDRA voltage class structure. See the NEDRA rules and regulations for a full listing.

VEHICLE AND DRIVER QUALIFICATION

All new drivers and vehicles must first perform one qualifying run under 40 mph in order to race.

After qualifying, all drivers and vehicles are legal to run up to 50 mph in machines that use bicycle wheels, tires, or brakes.

After qualifying, all drivers and vehicles are legal to run up to 70 mph in machines not using bicycle wheels, tires, or brakes.

In order to qualify for 70.01+ mph, drivers and vehicles must have completed two runs over 50 mph.

Drivers exceeding their personal speed limit or their vehicle's speed limit are prohibited from running again that day.

No records may be claimed or set if personal or vehicle speed limit is exceeded.

Drivers must re-qualify when racing a machine for the first time, even if that machine was previously qualified by another driver.

1. Motor

Motors

No restrictions on type or number of electric motors used in a 64 Class vehicle.

Motor Shielding

Direct path plasma and commutator bar shielding is required for all motors with cooling or access holes or with openings near the commutator. See NEDRA General Regulations 2.7.5.

2. Drive Train

Chain and/or Belt Guards

All chains, gears, etc. must be covered if they could endanger the driver, the driver of another vehicle, or spectators. Guards must be 1/4" Lexan, 1/8" aluminum, or 1/16" (.060") steel and mounted securely to the frame: no tie wraps.

Transmission

Use of transmissions permitted. Any type of transmission with any number of speeds permitted.

3. Brakes and Suspension

Brakes

Front and rear brakes mandatory on two-wheeled vehicles. Rear brakes mandatory on three and four wheeled vehicles. Minimum of two braked wheels all vehicles.

Brakes must be able to stop the vehicle from a speed of 25 miles per hour within a maximum distance of 40 feet or tires must skid (not turn) when the vehicle is dragged with the driver on board.

Vehicles using bicycle brakes restricted to 50 mph maximum trap speed.

Controls

SNAP-BACK throttle mandatory. Foot or hand controls permitted. See NEDRA General Regulations 2.1.1.

Two Wheeled Vehicles Only - Hand or foot shifting permitted. All hand controls must allow the riders hands to remain on the handlebars at all times. Handlebars must measure at least 12 inches overall with the grips removed. After leaving the starting line the riders feet must remain on the pegs.

Suspension

Front and rear suspension permitted.

Steering - Three and Four Wheeled Vehicles

Certain minimum standards apply to steering system components. Steering arms, rod ends, (ball joints) and all associated hardware serving to mount any steering elements must be equivalent, or greater, in strength than 1/4 inch diameter steel rod. King pins must be made of material that is as strong or stronger than a 3/8 inch solid steel rod.

Safety wire or cotter pins required on all critical steering and suspension component fasteners.

Wheelie Bars

Optional. Wheelie bar length must not exceed the wheelbase of the vehicle.

4. Frame

Crash Protection - "A" Vehicles

All style "A" vehicles must have frame members and padding that protect the driver in the event of collisions from any direction.

The minimum size of frame members will be:

- 3/4-inch O.D., round or 3/4-inch square tubing with;
- 0.065-inch wall thickness for mild steel
- 0.058-inch wall thickness for 4130 chrome moly, and
- 0.083-inch wall thickness for aluminum

Frames constructed of other materials may be allowed if it can be demonstrated that the alternative material(s) provide equal or greater structural strength and crash protection/safety. It is important to remember that you need to receive approval to use alternative materials before you order the materials and construct your vehicle. Approval must be secured from the program technical advisor.

Padding must be provided to prevent the driver from being injured from contacting the frame members in an accident. Padding must be at least 3/4-inch thick and made of closed cell foam or meet SFI spec 45.1 with a minimum of 1/4-inch compression.

Style "B" vehicles must be designed and constructed such that the driver's egress is not restricted in a sideward or rearward direction. Like a motorcycle, the fairing or frame of the vehicle must not cover the driver's profile when viewed from either side. Aside from a small seatback, the driver must be able to easily separate from the vehicle in a rearward direction.

Roll Bars - All style "A" Vehicles, Including All Enclosed Two Wheeled Vehicles

The roll bar must extend to at least 2 inches above the top of the driver's helmet for vehicles running under 50 mph, at least 3 inches above the top of the driver's helmet for vehicles running over 50 mph. It must be cross braced to the chassis, either forward or rearward from a point that is no more than 6 inches from the top of the roll bar. The bar itself must be made of tubing meeting the minimum standards for frame components.

An inspection hole, at least 1/8-inch in diameter must be drilled in a non-critical area of the roll bar hoop to permit inspector confirmation of the wall thickness.

Padding must be provided to prevent the driver from being injured from contacting the roll bar in an accident. Padding must be either 3/4-inch closed cell foam or meet SFI spec 45.1 with a minimum of 1/4-inch compression.

Roll bars constructed of other materials may be allowed if it can be demonstrated that the alternative material(s) provide equal or greater structural strength and crash protection/safety.

Ground Clearance

Frame or body parts must not drag with one or more flat tires.

5. Tires and Wheels

Tires

Tires must be adequate for the speed and weight of the vehicle and be free of cracks or defects. Front and rear slicks permitted.

Vehicles using bicycle tires restricted to 50 mph maximum trap speed.

Wheels and Axles

The wheels and axles must be strong enough to withstand the tests for braking and maneuvering.

Wheels, spokes and driveline components must be covered or guarded if they could endanger the driver.

All wheels must spin true (no wobble). No broken or loose spokes on spoked wheels.

Any vehicle displaying handling problems will be disqualified. Vehicles will be required to demonstrate acceptable handling and stability prior to being allowed to race.

Vehicles using bicycle wheels restricted to 50 mph maximum trap speed.

6. Interior

Interior

The interior and driver area shall be free of sharp or pointed edges or objects.

Driving Position - Three and Four Wheeled Vehicles

Driving positions where the driver's head is positioned forward of his/her knees are not permitted.

7. Body

General Construction

Vehicles must be neat in appearance and free of all sharp protrusions, including on the vehicle surfaces and the frame members.

Motor Shielding

Direct path plasma and commutator bar shielding is required for all motors with cooling or access holes or with openings near the commutator. See NEDRA General Regulations 2.7.5.

Windscreen and Windows

Windshields or windscreens must be safety glass, Plexiglas, Lexan, or other shatter-proof material. See NHRA General Rules 17:7:9.

Fairings

Fairings permitted as long as they do not obstruct rider controls. In style "B" vehicles, the fairing must not restrict driver egress in rearward or sideward directions.

Fenders - Two Wheeled Vehicles

Rear fender must cover the full width of the rear tire and extend behind the rear axle and forward below the seat position.

8. Electrical

Battery Requirements

Weight

A vehicle is limited to a maximum of 64 pounds of propulsion batteries. Small batteries, used for instrumentation, computers, or any other purposes that do not directly enhance the acceleration performance of the vehicle are not included in the 64 pound limit.

Type

In the standard class, batteries must be commercially available, conventional production, rechargeable, lead-acid type, and may not be modified (aside from heating) to increase their performance.

Batteries of vehicles are subject to being weighed randomly, or at the discretion of race officials at any time, at each race. It is advised that a manufacturer's specification sheet listing the weight of the particular model of battery be provided.

Experimental class vehicles may use any type batteries. A Material Safety Data Sheet (MSDS) must be provided to the tech inspector and the track safety crew prior to the race. In the case of an exotic battery technology (not NiCad, or Lead-Acid, for example) an MSDS must be provided one month prior to the race. Clean-up, spill, and personal protection equipment that differs from the equipment needed for standard lead-acid batteries must be provided to the track safety crew by the vehicle owner. The track safety crew (or the tech inspector) may deny the use of any exotic battery technology that, in the crew's judgement, represents an unacceptable hazard or risk to the track workers, spectators, or drivers. Technologies that present an unacceptable toxic spill risk may also be denied. The vehicle owner may be required to provide a properly trained and equipped track safety crew for some types of exotic battery technologies.

Battery Mounting

The batteries must be mounted to the vehicle in a manner that permits easy removal for weighing.

See NEDRA General Regulations 2.8.1.

Fusing

See NEDRA General Regulations 2.8.1.

Master Cut-Off Switch

All vehicles with trap speeds faster than 60 mph must be equipped with a master disconnect switch(es) or circuit breaker accessible by both the driver and by race officials during the race. On four-wheeled vehicles, this disconnect should be in the rear of the vehicle. The disconnect switch which is accessible to the race officials must be mounted within a red, equilateral triangle with four-inch sides. The master cut-off switch cannot make use of a contactor which is part of the throttle control for the vehicle.

See NEDRA General Regulations 2.8.4.

Automatic Shutoff

All style "B" vehicles must be equipped with a positive electrical shutoff switch attached to the rider with a lanyard.

Tail Light

Functional tail light mandatory for night operations. Strobe, flashing, high intensity, laser, infrared, photo sensitive or other light emitting/receiving device prohibited.

9. Support Group

Fire Extinguisher

It is recommended that each race team have a fire extinguisher present in the pit area.

Cameras and Other Devices on Cars

Vehicles wishing to enter the race course at any time with mounted cameras or similar equipment must pass tech with camera mounted in place.

10. Rider or Driver

Helmets & Goggles

All drivers must wear motor vehicle or motorcycle helmets with a Snell rating of 85 or better. Bicycle helmets are not acceptable. Helmets must be worn with the chin straps correctly fastened. Full-face helmets required for all two-wheeled vehicles. Drivers of open bodied vehicles wearing an "open face" helmet must wear goggles.

Protective Clothing

For all style "A" vehicles, drivers must wear long-sleeved shirts, long pants, and enclosed shoes.

For all style "B" vehicles with terminal speeds under 70 mph, drivers must wear leather jacket and denim pants, leather gloves and leather over the ankle boots.

For all style "B" vehicles with terminal speeds over 70 mph, drivers must wear full leather suit or zip-together leather jacket and pants, leather gloves, and over-the-ankle leather boots.

Head Restraint

All vehicles required to have a roll bar are required to have a head restraint. See NHRA General Regulations 17:10:6.

Seat Belts

All style "A" vehicles are required to have, at a minimum, with a three-point, lap-and-shoulder-strap seat belt. Seat belt strapping is to be at least 2 inches in width (automotive grade) and must be strong enough, and fastened to the vehicle in such a way that the complete vehicle, with batteries, can be lifted from the ground solely by the seat belt.

All open bodied vehicles and all vehicles required to have a roll bar and that exceed 50 mph trap speeds are required to have a 5 point safety harness. See NHRA General Regulations 17:10:5

Arm Restraints - Style "A" Vehicles

All open bodied vehicles that exceed 50 mph trap speed must be equipped with approved arm restraints and must be used by the driver at all times when the vehicle is in motion.

Driver Credentials

Drivers must present and have on their person a valid driver's license at each race.

Driver Exit

Drivers must be able to exit the vehicle, unassisted, in a maximum of 20 seconds.