

**INTERNATIONAL R/C SPEED CHALLENGE****COMPETITION RULES**
CLASS DEFINITIONS**OVERVIEW**

The ISC's intention is to establish a method and a set of classes to ensure there is a standard for the running of R/C vehicle top speed events both on a closed course and straight line.

The ISC's intention is to provide technical specification guidelines for the equipment required to accurately measure the velocity of an RC vehicle.

The ISC will list the official overall and class fastest speeds achieved and ensure ratification of the records to the ISC standards so that the speed is a true accurate measurement and that the car complies with the appropriate class definition

LEGAL

By entering vehicles and paying the entry fee, you agree that you will follow all ISC rules. By participating in any ISC event, you agree to these rules as well as any decisions made by the event officials. The ISC, race facility owners or operators, event sponsors or any officials shall not be held responsible or liable for loss, damage, injury or death resulting from competing in an ISC sanctioned event.

Event Officials- The designated Event Officials have the authority to render decisions regarding all aspects of safety and competition, and behavior of the contestants. This authority includes the right to expel, or disqualify any contestant from the event. Participants and spectators agree to be bound by the decisions of the designated event officials. Inappropriate or aggressive behavior by any participants or spectators may result in a suspension from ISC sanctioned competition.

Event Cancellation – Events cancelled due to weather or acts of God may or may not be rescheduled. Entry fees will be refunded to participants at the event on event day if a cancellation occurs.



GENERAL RULES

- **Straight line competitions** are generally held at a dragstrip or airfield.
- **Closed course competitions** are generally held at a velodrome or oval track
- **Pre-Event inspection** - All vehicles will be inspected before the event. If the vehicle is found to be illegal for the desired class, the participant shall have the opportunity to correct the infraction before the vehicle makes an official pass. If the infraction is not corrected, the vehicle will be moved to the appropriate class.
- **Pre-Run inspection** – An Event Official will check voltages of Electric Modified & Stock Classes BEFORE each official pass.
- **Post-Run inspection** - Winners of the IC Big Block, 4WD Small Block & 2WD Small Block Classes will be required to open the heads of their engines for measurement. If found illegal, the vehicle will be disqualified from the event.
- **Protests** - The protester will pay a fee of \$50 U.S.(or equivalent exchange rate), which is given to the protested person if the car is found to be legal, and returned to the protester if illegal. The Event Official has the final call on appropriate actions if found illegal.
- **The Event Officials** -shall make every effort to base their decision on (1) the original intent of the rule in question, and (2) whether it renders a competitive advantage to the individual subject to the dispute. The Event Officials shall make the final decision in regards to what is legal, safe or fair

GENERAL CONSTRUCTION RULES

- All vehicles must be remotely controlled. No guidelines, guide rails laser, GPS or retaining wires are allowed
- All vehicles must be fitted with a failsafe device that will stop the vehicle by application of the brakes. It must also cut the power to the drive motor in the event of a signal loss.
- All vehicles must have installed suitable radio equipment with adequate range to ensure the vehicle will stay under the control of the operator during its run.
- All vehicles must be inspected for safety by an event official before being allowed to compete. Including but not limited to: Proper braking operation, proper failsafe operation, throttle return spring operation, general integrity of the vehicle, and radio range demonstration.
- Steering gyros allowed in all classes
- There are no nitro content fuel restrictions, in IC classes
- No exhaust restrictions in IC classes
- Bikes to have 2 wheels, other vehicles 3 or more wheels
- A body must remain mounted on the vehicle during each pass through the speed trap.
- IC engines must have a throttle return spring installed, which will close the throttle and apply the brakes



- All Vehicles must be wheel driven
- No chase vehicles
- No push vehicles
- No power assistance, such as bungee, catapult, etc.
- No Hybrid power plants
- In the interest of the safety of all participants and spectators, any safety concerns including but not limited to: Proper braking, failsafe and throttle return spring operation, as well as a radio range demonstration may be requested to be performed by any participant at any time during the event by an event official.
- The Event Officials shall make the final decision in regards to what is legal, safe or fair

OVERVIEW:
OFFICIAL ISC STANDARD CLASSES

Electric Standard

- Electric Open
- Electric Modified
- Electric Stock 2wd
- Electric Stock 4wd

**ISC
STANDARD:**
1:12 scale
to
1:8 scale

Internal Combustion Standard

- IC Open
- IC Big Block
- IC Small Block 2wd
- IC Small Block 4wd

**ISC
STANDARD:**
1:12 scale
to
1:8 scale

Specialty Classes

- **Large Scale** Electric or IC powered 1:7 scale to 1:4 scale
- **Mini** Kit based, Electric or IC powered 11th scale & smaller
- **Open Wheel** Kit based, up to 1:4 scale, Electric or IC powered
(buggy-truggy-MT –etc)
- **Motorcycle** Kit based, up to 1:4 scale, Electric or IC powered



CLASS SPECIFICATIONS:

Standard Electric Classes

Electric open

- Any size electric motor or multiple motors
- Any cells
- Maximum vehicle length 39.37 inches (1000 mm)
- Maximum vehicle width 11.81 inches (300 mm)
- Commercial or Custom chassis and body

Electric Modified

- Single electric motor any size
- Maximum cell count: 4 cell Li-poly – 12cell NiMh/Nicad
- Maximum Voltage is 16.80V for Li-poly
- Maximum vehicle length 39.37 inches (1000 mm)
- Maximum vehicle width 11.81 inches (300 mm)
- Commercial or Custom chassis and body

Electric Stock 2wd

- 2 wheel drive only *(Can be a 4WD kit with drive power removed from the front OR rear wheels)*
- Single electric motor of 540 can size (maximum 2.08”L x 1.41”D; 53mm x 36mm)
- Maximum battery capacity: 6000 mah
- Maximum cell count: One (1) single, 2 cell Li-poly or 6 cell NiMh/Nicad pack.
- Maximum cell Voltage is 8.40V for Li-poly
- Stock based 1:12 to 1:8 scale kit chassis with commercially available upgrades, which do not lengthen the wheelbase by more than 1 inch.
- Commercially available body

Electric Stock 4wd

- 4 wheel drive only
- Single electric motor of 540 can size (maximum 2.08”L x 1.41”D; 53mm x 36mm)
- Maximum battery capacity: 6000 mah
- Maximum cell count: One (1) single, 2 cell Li-poly or 6 cell NiMh/Nicad.
- Maximum cell Voltage is 8.40V for Li-poly
- Stock based 1:12 to 1:8 scale kit chassis with commercially available upgrades, which do not lengthen the wheelbase by more than 1 inch.
- Commercially available body



CLASS SPECIFICATIONS:

Standard Internal Combustion Classes

IC Open

- Any size engine or engines, which use the expansion of gasses as its prime mover such as IC, Turbine with gearbox, Wankel, etc...
- Maximum vehicle length 39.37 inches (1000 mm)
- Maximum vehicle width 11.81 inches (300 mm)
- Commercial or Custom chassis and body

IC Big Block

- Single, Commercially available, IC engine up to 0.32 Cu in displacement
- Maximum vehicle length 39.37 inches (1000 mm)
- Maximum vehicle width 11.81 inches (300 mm)
- Commercial or Custom chassis and body

IC Small Block 2wd

- 2 wheel drive only (*Can be a 4WD kit with drive power removed from the front OR rear wheels*)
- Single, Commercially available, IC engine up to 0.18 Cu in displacement (small block mounting, .43 in X 1.2 in)
- Stock based 1:12 to 1:8 scale kit chassis with commercial available upgrades, which do not lengthen the wheelbase by more than 1 inch.
- Commercially available body
- Superchargers or nitrous not allowed

IC Small Block 4wd

- 4 wheel drive only
- Single, Commercially available, IC engine up to 0.18 Cu in displacement (small block mounting, .43 in X 1.2 in)
- Stock based 1:12 to 1:8 scale kit chassis with commercial available upgrades, which do not lengthen the wheelbase by more than 1 inch.
- Commercially available body
- Superchargers or nitrous not allowed



CLASS SPECIFICATIONS:

Specialty Classes

(Amended 3/19/09)

Large Scale

- 1:7 scale to 1:4
- Based on a production kit or RTR scale vehicle
- Electric or IC powered
- Max length 98.42 inches (2500mm)

Mini

- 11th scale or smaller
- Based on a production kit or RTR scale vehicle
- Electric or IC powered

Open Wheel

- Up to 1:4 scale
- Based on a production kit or RTR 4WD Buggy, Truck, Truggy, Monster Truck, ATV or rock crawler, etc.
- Body must not cover any part of the wheels
- Electric or IC powered

Motorcycle

- Up to 1:4 scale
- Based on a production kit or RTR scale motorcycle
- Motorcycles must have two wheels only
- Must have a scale rider figure
- Electric or IC powered



SPEED MEASUREMENT

***For a speed to be deemed official, it must be made during an ISC sanctioned event.
For a record to be ratified by the ISC, the speed measurement must meet the following minimum standards***

For Straight line Competitions:

A minimum of 1 optical timing trap, with photos or video of sensor placement to provide proof of an accurate ISC approved set up. The distance between the gates shall be no less than 10 feet. The device must be approved by the ISC. In order to have a speed recognized as official, it must have a "back-up" time recorded at the same event within 5%. The fastest will count as official.

If there are two recorded speeds that are out of the scope of the 5%, then the slower of the speeds will count as official.

This can be accomplished in a single run by having two optical timing systems, or two separate passes at the same event using a single optical timing system.

The purpose of a back-up speed is to eliminate the chance for any unforeseen errors, such as debris moving through the lights or other optical anomalies.

For Closed Course Competitions:

A transponder loop & transponder will be used to determine a lap time. The distance of the track will be determined at the shortest racing line around the track. The speed will be calculated by this formula;

Track length in feet divided by lap time (in seconds) multiplied by 0.682 = MPH

In order to have a speed recognized as official, it must have a "back-up" lap time at that event within 5%. The fastest will count as official. If there are two recorded speeds that are out of the scope of the 5%, then the slower of the speeds will count as official.

The purpose is to eliminate any unforeseen errors with the transponder system.

******It is suggested (but not required) that ALL runs be recorded on video******

***Radar guns, GPS, Speedometers etc –
Are Not allowed to be used as ISC official speed measurement devices***



OFFICIAL RECORDS

ISC Official Records will simply be the fastest officially recorded run, held at an ISC event, in each official class until January 31, 2009.

Beginning February 1, 2009, an ISC Official Record run must have a “back-up” speed within 5% of the first run. The fastest will count as the Official Record. If the two-recorded speeds have a difference greater than 5%, then the slower of the speeds will count as official.

REQUIREMENTS FOR AN OFFICIAL ISC EVENT

- An Official from the ISC directing committee must be present to perform or coordinate pre-run tech and safety inspections, inspect and verify certification of the timing systems, oversee protests, and serve as the final word on any and all aspects of the event and participants.
- The ISC Official may delegate tech and safety inspections to a qualified ISC member, but the ISC Official has final say on any matter.
- ISC Certified single or dual optical speed traps must be used.
- The specific location must allow common sense safety procedures to be followed.
- A Race Director or ISC Official must be present to install and operate the traps, and record speeds for each of the competitor’s runs.
- An electronic and/or hard copy of all official runs must be delivered to the ISC Official immediately upon conclusion of the event.
- The ISC Official will make the final decision to open or close the track/surface for official runs at any time during the event for weather, safety, surface prep/inspection or any other reason.
- Any events seeking the designation of an ISC Official Event must be approved by a majority vote of the ISC directing committee. The ISC logo and “ISC Official Event” may not be used in conjunction with any event until approved by the directing committee.

