

**United Kingdom & International Timing Adjudication Limited - UK&ITA.**  
**National technical and sporting regulations (© UKITA)**

**UK & International Timing Adjudication (UK&ITA) – (2-R-A) NATIONAL**

Land speed records can be challenged at speed events organised by Straightliners Events on airfields either at a Full Throttle Monday if notified in advance or at a records event.

The UK&ITA land speed records listing began in June 2021 when records were timed for two run average speeds (**2-R-A**). These records were for flying start distances and for top speed distances from a standing start, where a speed trap is installed. Standing start elapsed time records over half mile, 1 mile, 500 metre and 1 kilometre were added in 2022. Each pass, or timed run, is made in the same direction. Records will be made on solid surfaces (T). [There is a separate listing of speeds set on natural surfaces].

The National speed records available to bikes and cars (in all Straightliners bike and car classes) are:

<u>Imperial short distances are:</u>	<u>metric short distances are:</u>
Standing Start, 1 mile elapsed time (s)	Standing Start 500 metres elapsed time (s)
Standing Start, ½ mile elapsed time (s)	Standing Start 1 kilometre elapsed time (s)
‘Standing’ Half Mile - speed-trap average	‘Standing’ One Kilometre - speed trap average
Flying start 1/2 mile. Ave speed.	Flying start 1 kilometre. Ave speed.
Flying start 1/4 mile. Ave speed.	Flying start 500 metres. Ave speed.
Flying start 1/8 mile. Ave speed.	Standing start 2 kilometre. Ave speed.
‘Standing’ One Mile speed trap average	‘Standing’ Two Kilometre speed trap average

Event supplementary regulations may list the particular speed record distances which are to be challenged during the event.

**UK&ITA: 2-R-A-NLSR (© UK&ITA 2021/2)** records will be the average elapsed time or average speed of (any) two passes or runs, made by a Straightliners member within a period not exceeding sixty minutes, who is registered with the Club and is speed licenced as a rider or driver on or in their nominated vehicle. (For Electric motored vehicles (EVs) and for thrust propelled vehicles a 120 minute period is allowed).

Each course location has been professionally surveyed to ensure that there is no assistance from the gradient of the land. Wind assisted records are prevented by the measurement of the prevailing wind speed in the direction of vehicle travel and when too high a halt is called to speed record passes or runs.

GUINNESS World Records (GWR) speed record contenders, with vehicles which have sometimes been called ‘unusual’, who have registered their speed attempt with that company, will be welcomed by UK&ITA. Operating to the specific guidelines each registered contender will have received from GWR, they are encouraged to enter Elvington Speed Events as per the dates on our website [www.straightliners.events](http://www.straightliners.events)

*All record breaking can be weather (and in particular wind and rain) affected.  
The running of any land speed record event will be halted, by the event  
Officials, if the conditions are deemed unsafe.*

# United Kingdom & International Timing Adjudication Limited - UK&ITA.

## National technical and sporting regulations (© UKITA)

**Establishing a UK&ITA – NATIONAL-2-R-A-T** short distance record class record, when no time or speed has ever been recorded by UK&ITA timing officials for a particular class of vehicle. A rider or driver may obtain a **UK&ITA National 2RA Land Speed record (2RA-LSR)** in their class at the conclusion of an event day, provided that speed is within their top speed rider/driver licence speed range. Riders and drivers shall make two satisfactory passes or runs which can be averaged within sixty minutes and they must be the fastest of all of the class entries.

(Electric vehicles (EV) and thrust propelled vehicles have a hundred and twenty minute period).

The quickest or fastest of each class entry at the end of a particular 24hr day may be confirmed as a **UK&ITA NATIONAL-2-R-A-T land speed record holder.**

**Breaking an existing UK&ITA – National 2-R-A LSR**, a rider or driver must make their first pass or run which exceeds any published or confirmed class record speed by 0.01 mph. This first pass can then be averaged with any other pass, or run, (or any two quicker times or speeds) made within sixty minutes, or 120 minutes. A new record will be awarded if the two-run-average is at least greater than any existing National record speed by 0.01 mph.

### Categories:

#### **A. Road Going**

UK road legal and either DVLA registered vehicle or a European equivalent, insured as having the unmodified engine of the vehicle model as it was sold to the general public.

or

#### **B. Modified**

A manufactured vehicle from UK or Europe with changes made to some or all of the following: the power unit; the transmission; the chassis; engine bonnet; boot lid; doors, body panels; wheel arches; windows.

or

#### **C. Specialist**

Which is a bespoke construction or a prototype (pre-production) vehicle.

### Group (I to VII, IX & X):

**Automobiles** (Category A or B or C) with four or more wheels, all of which must be in ground contact, with steering by at least two wheels and propulsion by two (or more) wheels.

#### **I Saloon or Touring Cars**

Saloons, hatchback or estate bodied vehicles, originally capable of seating four adults, maintaining the original recognisable manufacturer silhouette.

#### **II Grand Touring Car (GT)**

Vehicles that may be open (roadster or cabriolet) or coupe (fixed or removable hard top), originally capable of seating two adults.

#### **III Sports Car**

Open two-seater vehicles constructed for high performance. This group will include most 'kit cars'

**IV Sports Utility Vehicle (SUV)**

Vehicles built to transport people and modest goods, all in an enclosed space

**V Pick-up**

Small trucks capable of carrying loads in an open (uncovered) bay behind a cab capable of taking two adults, maintaining the original recognisable manufacturer silhouette.

**VI Crew Bus; Leisure vehicle; Van**

From the same base vehicle: with windows access and seating for many passengers seated in rows (crew); the facilities for cooking and serving a meal and then washing the dishes (leisure); the original window less commercial vehicle which provides an enclosed goods carrying volume, often for loose goods (van).

**VII Supercar or Hypercar**

Generally low construction volume ultra-high-performance (high speed) road legal vehicles constructed for road or private track use; often acclaimed by the general public as meriting the title.

**VIII Competition Cars or Racing Cars**

Vehicles built solely for competition use on any race circuit or on a test track and never intended for road use, having seating only for the driver.

***Motorcycles:***

*There is a separate document to be read that gives the UK&ITA classification of motorcycle classes,* this is made available through the straightliners events website in the 'Rules' for riders. There is a further document for riders and passengers (where they are permitted) which deals with safety clothing (PPE), helmets, safety shut off lanyards, etc.

**IX**

**Solo two wheeled motorcycle, single track, maximum of two engines:**

(there are **three bodywork** configurations for motorcycles – unfaired (aka 'naked') where nothing fitted to the bike provides a streamlined effect); partially streamlined; streamlined.

**The three bodywork** configurations for solo two-wheeled motorcycles are:

**I unfaired** (or 'naked' – without any aerodynamic surfaces giving streamlining)

or

**II partially streamlined** (the body of the rider, apart from arms and wrists, can be seen fully from each side and from above.

or

**III fully enclosed streamliner** where the rider is harnessed within the chassis of the bike which must have roll over protection (ROPS). Retractable wheels may be fitted to give low speed stability to the streamliner.

**A.** 50cc; 100cc; 125cc; 175cc; 250cc; 350cc; 500cc; 750cc; 1000cc; 1350cc; 1500cc; 1650cc; 2000cc; 3000cc, unlimited capacity.

**B.** Electric; **C.** Gas turbine; **D.** Thrust– non wheeldriven (Jet **J** or Rocket **R**)

[Unladen weight:] up to 150kg; over 150 and up to 300kg; over 300kg

**X**

**Sidecars, two tracks (front wheel 'covered' by rear wheel). 60kg ballast fixed securely on to sidecar (or a passenger can be carried.**

**A.** 250cc; 350cc; 500cc; 750cc; 1000cc; 1350cc capacity.

**B.** Electric;

[Unladen weight:] up to 150kg; over 150 and up to 300kg; over300kg

**XI**

**Scooters and Mopeds: automatic and geared**

**A2 Scooters:** 50cc; 100cc; 175cc; 250cc; 300cc; 500cc (geared only); 800cc (automatic only) capacity.

**A3 Moped:** 50cc; capacity.

**B.** Electric;

[Unladen weight:] up to 150kg; over 150 and up to 300kg; over 300kg

**XII**

**Cyclecars and Trikes (three wheeled, three track motorcycles – rider only carried)**

**A.** 250cc; 350cc; 500cc; 600cc; 750cc; 1000cc; 1350cc; 1500cc; 1650cc; 2000cc; 3000cc; 4000cc; capacity.

**B.** Electric; **C.** Gas turbine;

[Unladen weight]: up to 150kg; over 150 and up to 300kg; over 300 and up to 500kg; over 500kg

**XIII**

**Quad bike. (single engine driving the two rear wheels).** Four wheeled balloon tyred vehicle with a rider sitting astride, steered by handlebar connected to the two front wheels.

**A.** 250cc 350cc; 500cc; 600cc; 750cc; 1000cc; 1350cc; 1500cc capacity.

**B.** Electric; **C.** Gas turbine;

[Unladen weight:] up to 150kg; over 150 and up to 300kg; over 300 and up to 500kg; over 750kg.

**XIV**

**Karts**

Small wheeled competition vehicles having no suspension, short wheelbase, a rigid frame, normally aspirated single engined, rear wheel drive. These vehicles can be further divided by these class descriptions (**A – J**):

- |                            |                                                                      |
|----------------------------|----------------------------------------------------------------------|
| <b>A.</b> Historic kart    | built prior to 1984 and to the original makers specification         |
| <b>B.</b> Classic          | built between 1984 and 1997 and to the original makers specification |
| <b>C.</b> Circuit 100cc    | built to and meeting National or International Kart regulations      |
| <b>D.</b> Circuit 125cc    | built to and meeting National or International Kart Regulation       |
| <b>E.</b> Circuit 175cc    | built to and meeting National or International Kart regulations      |
| <b>F.</b> Circuit 250cc    | built to and meeting National or International Kart regulations      |
| <b>G.</b> Diesel kart      | up to 500cc, a single diesel cycle power unit                        |
| <b>H.</b> Thrust propelled | <b>J:</b> jet; <b>HJ</b>                                             |

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- I. Drag Karts up to 1300cc total capacity, with or without forced induction. Utilising an elongated wheelbase, larger driven wheels and fitted with roll over protection for a driver wearing safety restraints. (*Read construction regulations elsewhere written by the organiser*).
- J. Electric kart using a single electric motor, powered from stored on-board electricity.

***Riders and drivers must ensure that they enter the vehicle they are using at an event in the correct class.*** The cubic capacity of any and all internal combustion engine(s) may be checked by a technical official immediately after a record attempt has been made, or a seal could be applied to the power unit by a technical official to allow for inspection and capacity measurement at a later, agreed, date.

The single object sidecar ballast will be checked for weight (132lb, 60kg) and for security of fixing.

Where classes are defined by “unladen weight”, a printed and dated weighbridge ticket could suffice to confirm the correct class has been entered. A technical official may accompany an entrant to a weighbridge for weight checking purposes.

Vehicles may use natural aspiration or forced induction. Most fuel types are acceptable including methanol, nitromethane, nitrous oxide injection, octane booster, hydrogen, LPG, all for use in reciprocating 2 and 4 stroke engines, diesel cycle or rotary engines.

**Thrust propelled vehicles** may be entered for any speed event. The time at which such ‘noisy’ vehicles can be operated will be stated in event Supplementary Regulations and confirmed at the morning competitors briefing.

The organisers will recognise average speeds or times for an electric vehicle or thrust propelled vehicle within a period of 120 minutes.

**NO pulse jet power units. NO Solid fuel rockets. NO bi-propellant systems; NO hypergolic rocket fuels.**

**XV**

**Special Vehicles (Thrust propelled)**

With any style of bodywork and seating for one person, with four or more wheels, which take the vehicle weight, but are not used for propulsion. These vehicles will be subdivided by the propulsion unit type – jet turbine or rocket

**XJ** - Jet

**XR**- Rocket

***It is the thrust vehicle team’s responsibility to arrange for any necessary training sessions for the fire and rescue teams. Training and safety equipment needs will depend on the fuel used and the hazards presented. These should be specified in the entrant’s vehicle Safety Plan.***

***When vehicles are using unconventional fuels or liquid oxidiser (for example high test peroxide (HTP)), the fire and rescue unit personnel must be tutored by the vehicle owner or builder and then be equipped to deal with such ‘fuel’ components being used.***

**Combustion power unit types:** Spark ignition motor, internal combustion, two or four stroke, which may be water cooled or air cooled; Rotary motor; Diesel Cycle (compression ignition) motor.

The total cubic capacity of all installed, connected and operable power units, when a vehicle is assessed by an event official, will determine the vehicle capacity class.

**Combustion Engine Cubic Capacity Classes (18):**

<b>Class 100</b>	Up to 100cc	<b>Class 125</b>	101cc to 125cc
<b>Class 175</b>	126cc to 175cc	<b>Class 250</b>	176cc to 250cc
<b>Class 350</b>	251cc to 350cc	<b>Class 500</b>	351cc to 500cc
<b>Class 750</b>	501cc to 750cc	<b>Class 1100</b>	751cc to 1100cc
<b>Class 1500</b>	1101cc to 1500cc	<b>Class 2000</b>	1501cc to 2000cc
<b>Class 3000</b>	2001cc to 3000cc	<b>Class 4000</b>	3001cc to 4000cc
<b>Class 5000</b>	4001cc to 5000cc	<b>Class 6000</b>	5001cc to 6000cc
<b>Class 7000</b>	6001cc to 7000cc	<b>Class 8000</b>	7001cc to 8000cc
<b>Class 10000</b>	8001cc to 10000cc	<b>Class 10001+</b>	10001cc and above

Without forced induction of any type – this is known as being **Normally Aspirated (N A)**.

With **Forced induction (F I)**, where engines are fitted with any mechanical device capable of augmenting atmospheric pressure entering the engine induction system. This description does include the fitting and use of any type of Nitrous Oxide injection system.

**Gasoline** – also known as pump fuel refined from crude oil – available to the motoring public from roadside vehicle filling stations, in the UK or in Europe. Petrol includes E5 and E10; liquified petroleum gas (LPG); lead replacement gasoline. **Gas**

**Diesel** – pump diesel (diesel automotive gas oil – DERV) or bio-diesel made available to the motoring public from roadside filling stations. **Diesel**

**Fuel** – this will include most other liquid fuels that used in motorsport - such as ethanol; methanol; nitro-methane; or any liquid pump fuel (gasoline) into which any form of octane boosting additive or an oxygenating additive has been mixed. **Fuel**

**Hydrogen** – may be used directly in a reciprocating engine, or to power a hybrid fuel cell on an electric vehicle. **Hydrogen**

**Electric Motor classes (Omega, EV)**

Electrified vehicles utilising a rechargeable energy storage system (RESS). The electric power will be supplied to the drive motor(s) from on-board electrical storage, which can be batteries or chemical power cells. An energy recovery system (ERS) may be an on-board generator. Indication lights shall be used to show the power status of the vehicle to anyone approaching it. The seated and safety restrained driver shall be able to activate a vehicle general circuit breaker or driver master switch.

The Electric vehicle weight without driver (known as the unladen weight), in kilogrammes, determines the class to enter from 1 to 11:

<b>1E</b>	500kg	<b>2E</b>	501kg to 1000kg
<b>3E</b>	1001kg to 1500kg	<b>4E</b>	1501kg to 2000kg
<b>5E</b>	2001kg to 2500kg	<b>6E</b>	2501kg to 3000kg
<b>7E</b>	3001 kg to 3500kg	<b>8E</b>	3501kg to 4000kg
<b>9E</b>	4001kg to 4500kg	<b>10E</b>	4501kg to 5000kg
<b>11E</b>	5001kg and above		

**Gas Turbine powered classes (T):**

Gas Turbine powered vehicle with the weight, without the driver (unladen weight), in kilogrammes determining the class to enter from 1 to 11.

<b>1T</b>	500kg	<b>2T</b>	501kg to 1000kg
<b>3T</b>	1001kg to 1500kg	<b>4T</b>	1501kg to 2000kg
<b>5T</b>	2001kg to 2500kg	<b>6T</b>	2501kg to 3000kg
<b>7T</b>	3001 kg to 3500kg	<b>8T</b>	3501kg to 4000kg
<b>9T</b>	4001kg to 4500kg	<b>10T</b>	4501kg to 5000kg
<b>11T</b>	5001kg and above		

**Note!** The term **vehicle** will now be used in the remaining paragraphs of this document for any automobile, motorcycle, or special vehicle and the person at the control of any of these may be described as the **driver** or the **rider**.

Riders or Drivers may need to break an **existing UK&ITA – NATIONAL-2-R-A-T** record.

The rider/driver must make a first pass, or run, which exceeds an existing NATIONAL 2-R-A-T record speed by 1% (speed x 1.01), or is quicker than an existing elapsed time record using the same margin of 1% (et x 0.99).

This first pass can then be averaged with any other later pass, or run, made within sixty minutes (EV & thrust 120 minutes).

A new land speed record will be awarded if the two-run-average (2RA) is at a greater speed than the existing record by 0.001 mph and it is the best in class on a particular 24hour day. An elapsed time record must be a lesser time by 0.001 seconds and has to be the best in a class on a particular 24hour day.

Elements which provide vehicle motive power - the engine block; operating cylinder numbers; turbine casing; liquid or gaseous fuel type; electric motor size; battery pack configuration, and any or all parts which provide vehicle motive power, **shall remain the same** throughout each sixty-minute (or 120 minute) attempt. Vehicle bodywork and ballast weight cannot be removed or altered during an attempt time period

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***Any person making any major vehicle change will be required to recommence their complete speed record attempt.***

Only authorised '***service parts and replenishment materials*** can be changed on, or added to, the vehicle when work is carried out for maintenance purposes. This permitted work is primarily to ensure vehicle safety before each powered pass, or run, that is being made in the sixty minutes of the attempt, (or 120 minutes where appropriate).

Vehicles will remain under official observation in all paddock areas and ***any attempt by a team to cover or to shield a vehicle from view***, or part/parts of the vehicle, will lead to immediate exclusion and the removal of all speeds or times from the results.

Should any vehicle ***exceed the event noise limit at any time during a speed record attempt***, that attempt will be halted by Officials, until that defect is corrected and vehicle is re-approved. No time extension to the sixty-minute attempt time period will be given.

Any registered entrant at the speed record event may ***protest the legality of another vehicle of the same type (category or group)***. A fee may be requested by UK&ITA to meet the costs of any intrusive technical inspection, or to meet the cost of any necessary technical officials meeting(s).

Any NATIONAL record speed or record time of a ***vehicle under protest*** would remain 'provisional' until an outcome has been agreed and the parties involved have been informed of the decision, taken by UK&ITA Officials, which will be final and binding on all.

The time or speed achieved by any vehicle under protest, would however be used as the target for others to exceed for the remainder of the day, or for the whole event.

For further information or to register your interest in competing at any ***NATIONAL 2RAT*** speed record event:

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***Straightliners & UK&ITA NATIONAL 2RA Speed Records v1 15.4.26.***