

The Kart Classes Explained

Cadets Age 8-13

Boys and girls can start racing karts at the age of 8 in one of the Cadet classes, although some tracks will allow youngsters to practice from the age of 7. They can continue until the end of the year of their 13th birthday, although they may be getting too heavy by then and so can move into certain Junior classes from the age of 11. The three Cadet classes are described below and all are permitted to race together. All have a centrifugal clutch and a recoil starting cord. The special minikarts used are registered with prices controlled to an agreed maximum. Top speed is about 50mph. BRDC Stars of Tomorrow holds the British Cadet Championship whilst the Super One Series has the ABKC series. WTP has its own Little Green Man championship.



Comer Cadet

Uses a 60cc sealed 2-stroke Comer engine so engine rebuilds have to be carried out by an approved service agent. Because this is the class used for the premier championships, it is run by most clubs.



Honda Cadet

Honda Cadet uses a 4-stroke Gx160 engine which no longer has to be sealed. The long life engines are very low-cost but have to conform to a technical specification. Most but not all clubs will accept these karts and it has a national ABKC championship in the Super One.



WTP Cadet

WTP Cadet is a different model of 60cc 2-stroke with the latest B5 engine having an electric push-button start. This is commonly known as TAG - for Touch-and-Go. Like Comers the engines are sealed and have a log-book. Check to see if it is raced at your local club.

Transponders
Most ABKC clubs will require the driver to have a transponder. These are usually of the AMB TranX-160 type. The use of transponders allows for computer timing and lap scoring. Clubs may also be able to hire out transponders per event. The kart regulations specify the fitting requirements.

Protective Clothing

To race a kart you must wear approved protective clothing, see Competitors Yearbook for full lists

Crash Helmet Standards

BS6658 Type A - Blue Label (May be phased out 1.1.2010)
BS6658 Type A/FR - Red Label (Type B is not acceptable)
Snell SA2005 or older SA2000
Snell K2005 (Kart racing only)
Snell-FIA CMH2007 (Junior only)

The ECE EN22 standard is NOT acceptable for kart racing. The helmet must also carry a blue MSA sticker (green for the K2005 or the older K98 series helmets) which can be purchased from a scrutineer and cost £1.30

Kart Suit

Drivers must wear an approved kart suit. The current type has a CIK homologation and year code embroidered under the collar. Level 1 suits are acceptable for national racing, whilst Level 2 suits are mandatory for international racing.

Gloves and Boots

Strong gloves are needed and boots that cover the ankles.

Juniors Age from 11/12/13 depending on class up to 17

There is no doubt that the 125cc water-cooled Rotax Max TAG (Touch and Go - electric start) categories have taken over as the most popular classes in the UK from the more traditional 100cc air-cooled two-stroke that is Formula TKM. Drivers can start racing in Rotax MiniMax or Junior TKM at age 11, then move into the more powerful Junior Max or Junior Extreme at age 13. Being a TAG class, the Rotax have a press button start whereas the TKM have to be either lifted and pushed, or use an optional plug in portable electric start box. Rotax are more expensive initially but the engine runs longer between rebuilds, so the running costs can be less. The TKM's are at the economy end for initial purchase with strict price controls. You may also see the new 125cc KF3 international class at championship events, and probably at club races too. Top speeds in the junior classes vary from 55mph to 75mph. The best advice here, as in all classes, is to visit your local circuit to see what is popular in your area.



Rotax MiniMax

MiniMax (11-17 yrs) is the lowest powered class of the Rotax family, and uses a very restricted 125cc 2-stroke TAG engine. All Rotax engines are sealed and have a log-book showing the service history.



Junior Max

By taking the restrictor out of a MiniMax it is converted to a Junior Max (age 13-17 yrs). It is one of the most powerful junior classes, with top speed about 70 mph.



Junior TKM

Junior TKM (11-17 yrs) is a popular traditional kart class using a BT-82 piston-port engine to a strict non-tuning regime. The junior engines have a restrictor between the carburettor and the engine to limit the power.



Formula KF3

The premier British championship class for 13-17 yrs (12 for experienced drivers). Also raced at European and world class level. Not a class for the inexperienced.



Junior TKM 4-stroke

Tal-Ko, who make the TKM engines, also make a 200cc long-life 4-stroke. There are classes for them in the Super One Series, but not raced at all clubs. For 11-17 yrs with a senior equivalent.

Other essentials you will need

Fire extinguisher

Every competitor must carry an approved size fire extinguisher in their car or van to BSEN3 standard with a minimum 55B size rating. (70B is a popular size to purchase).

Tools and things

As well as a kart you will need a kart trolley or stand to wheel it about and work on it. Many karts will fit into the back of a hatchback or estate car but small trailers or vans are also popular. You will need some basic tools, including a socket set, screwdrivers and pliers, 10mm, 13mm and 17mm metric spanners, an Allen key set and a tyre gauge and foot-pump. For spares and consumables you will need 2-stroke oil to mix with the petrol if using a 2-stroke engine, chain spray, cleaning fluids and rags, a spare spark plug, a chain and some sprockets to change the gearing for different tracks. You will also need a set of wet weather tyres if it rains, as karts normally race on slick tyres with no tread.

Karting really does have classes for almost every age, size and ability from age 8 upwards, but sometimes the sheer number of options can be somewhat confusing. This pictorial display should help to explain. There are basically four different categories - Cadets, Juniors, Seniors and Gearbox for karts with gears. The non-gearbox 'direct-drive' karts only need to have a brake on the rear axle (although some top classes have a front brake too) whereas gearbox karts must have brakes operating on all four wheels. Most of the modern direct-drive karts have a centrifugal clutch so the engine can tick-over.

Seniors Age 16 upwards

The junior classes all have more powerful senior equivalents. The most popular senior class in the country is Rotax Max, but there are other options worth exploring at your local circuit. The once all-conquering TKM Extreme class is now only popular in certain areas, eg in the Midlands, and if you live in such an area it should be investigated. There are other TAG engines as well as Rotax, and TKM has a senior 4-stroke class. Once some experience has been gained there are further options for the premier international classes, raced primarily at the major championships. These KF2 and KF1 classes use a variety of 125cc TAG engines, similar to Max. KF2 may well be seen at club level, with the more powerful KF1 at the top of the tree. They are restricted in maximum rpm for longer life. Both are raced in the Super One Series with KF1 being the MSA British Championship. Senior classes top out at 85mph.



TKM Extreme

TKM Extreme is for 16 yrs upwards (although as in all the classes juniors already racing may move into the senior classes in the year of their 16th birthday). The engine is a 115cc variant of the BT82. As with the juniors the chassis have to be registered, and new designs are only permitted every three years, to keep costs down. It's a popular and economic class.



Rotax Max

The senior equivalent of Junior Max, with a very powerful 125cc TAG engine. Although the maximum revs are limited electronically, they are nearly as quick as KF2, but much lower maintenance, and sealed to prevent unapproved tuning. Care needs to be taken if starting in this class. Like many classes there is a higher weight variant called Rotax 177 for the heavier driver.



100 National/K100

A class for seniors only, using the previous generation of 100cc full race engines, but less costly because of the more durable tyres used. Like most senior classes, top speeds in excess of 80mph at certain circuits.



Formula KF2

A premier championship class using reed-valve engines which can rev to 15,000rpm. Primarily raced in the Super One Series, and also as the entry point in senior European level racing. Not a class for the inexperienced.

NEW KF classes:

New 125cc TAG engines were introduced during 2007 to replace Formula A (becoming KF1), ICA (KF2), JICA (KF3). These are raced in the major European and World events, and introduced to the UK for 2008, leaving 100 National as the 'home' for the ex F.A and ICA engines. At the same time, SICC and ICC are re-named KZ1 and KZ2.



Formula KF1

The premier 125cc direct drive class for seniors, for British, European and World Championship racing. Uses very grippy tyres and is expensive.

Gearbox Age 16 upwards (Junior 13 - 17)

Other than the Junior 85cc category for 13-17 year olds, gearbox karts offer the highest powers and speeds. They can have either 2 pedals - brake and accelerator - like the direct drive classes, or 3 pedals, one of which is a foot clutch, like a car. Most 125's use karts very similar to the direct drive karts except for the four wheel brakes. They have a hand clutch mounted next to the steering wheel, which is only used to move off from a standstill. At most circuits a standing start is used, as opposed to the rolling formation start that direct drive karts have.

Gearbox karts can also be used on the long motor racing circuits, although everyone should preferably start on the short circuits which are typically 900 to 1300 metres in length.



125 ICC UK (KZ2 UK)

ICC is the most popular gearbox class. Although a little more expensive than a direct drive class, they can be surprisingly economical to run. The 125cc water cooled engines have six gears, sequentially operated like a motorcycle using a gear-lever mounted next to the steering wheel. 0-60mph times are less than 4 seconds, top speed is 90mph on short circuit, 110 - 120mph on long circuit. The ABKC championship is promoted by the NKF.



Super ICC / KZ1

The specification for Super ICC is identical to ICC except that it confirms more fully with CIK international regulations. The ABKC championship is held in the BRDC Stars of Tomorrow series. Like ICC, the tuning of the reed valve engines is fairly restrictive, to prolong the life between rebuilds, and the tyres are very durable. The KZ2 and KZ1 are very popular in international racing. There is a good second-hand market for these classes.



250 National

This is the most powerful short-circuit class using 250cc single cylinder motocross 5-speed engines. The karts are often equipped with large full width nose cones and wings, especially when used on the long circuits. Top speeds are 100mph on short circuit, 140mph on long circuit. Twin cylinder Superkarts can reach 170mph though. The NKF holds the ABKC national championship.

Junior Gearbox

This class uses an 85cc Honda or TM engine with 6 gears and is for 13-17 yrs. With its four wheel braking it offers the youngsters an experience close to a single seater race-car. It's not raced at many clubs though.

210 National

A classic class using the Villiers 197cc engine or derivatives. Administered by the drivers themselves through the 210 Challenge group, contact is Kate Bateman on 01527 871075.

Motor Sports Association and Competition Licences

Globally all motorsport is governed by the FIA from its office in Switzerland, and it devolves the organisation of motorsport in each country to individual bodies. In the U.K. it is MSA that governs motorsport and issues competition, officials and track licences. The CIK is the part of the FIA that sets the international kart regulations. The MSA's Kart Sporting Committee sets the overall safety and general kart regulations, which are contained within the MSA Competitors Yearbook, also known as the 'Blue Book'. Once you have your competition National B (Novice) kart licence (the starting grade) you need to complete to the MSA Steward's satisfaction five more races after your ARKS Test, as a Novice, using black number plates on your kart, and starting from the back of the heats. Thereafter you may use the normal coloured number plates for the class, enter long circuit racing (subject to age) and upgrade to National B status. Then, if you want to progress to the bigger meetings, you need a further 6 signatures at a minimum of three different circuits and then upgrade to a National A licence. The Motor Sports Association is at Motor Sports House, Riverside Park, Colnbrook, Slough, SL3 0HG Tel: 01753 765000 (765050 for licences) Fax: 01753 682938 Website: www.msauk.org

Disabled Drivers

It is now possible for disabled drivers to obtain a kart race licence, although each case is considered on merit. Any potential applicant should contact the British Motor Sports Association for the Disabled in the first instance for specific advice. The MSA can give details. Karts in many classes can be successfully converted to full hand control, even the gearbox categories. Drivers have to display a D number plate in addition to their class numbers.

Pro-Racer Card

Another route to obtaining a MSA Kart Competition licence is through the purchase of a £10 ARKS-KCB Pro-Racer Card. Once the driver's photograph is attached, he or she can collect signatures at participating circuits or promoter's series. When eight signatures for successfully completing races are obtained, of which at least four must be for out door races, the driver earns an exemption from the driving part of the ARKS Novice Driving Test. The driver must still purchase the Start Karting pack from the MSA, and if over 18 have a medical examination, and then take the written part of the ARKS test. Many of the circuits who are members of the National Karting Association (NKA - www.nationalkarting.co.uk) can issue the cards. The NKA is the trade association for the commercial circuits, indoors and out doors.

Volunteers in Motorsport

Officials and marshals are always required in kart racing, and even if you are unable to race you can help your local club in other ways. Training will be given. See www.volunteersinmotorsport.co.uk for more details.

Further information

Further information about the ABKC and kart racing from:
Secretary of ABKC or Chairman of ABKC
Graham Smith, Russell Anderson,
Stoneycroft, Godsons Lane, Tel: 01977 689990
Napton, Southam, email:
CV47 8LX chairman@abkc.org.uk
Tel/Fax: 01926 812177
Email: secretary@abkc.org.uk
A free DVD is available to those interested in starting kart racing.

Useful Books, CD's and Magazines:

A large selection of books, calendars, CD's and DVD's on all aspects of karting including how to get started as well as the popular monthly "Karting Magazine" are available from Lodgemark Press, Moorfield House, 15, Moorfield Road, Orpington, Kent, BR6 0XD. Tel: 01689 897123 Fax: 01689 890998 www.kartingmagazine.com

The weekly "Motorsport News" also covers kart racing. Tel: 08456 777820

Long Circuit Racing:

Drivers can go into the long circuit 125cc and 210cc classes at 16 but must be 17 or over to race the 250cc classes. Gearbox classes, whether long or short circuit, offer the nearest thing to powerful single seater car levels of acceleration and handling. The long circuit championships are organised by the British Superkart Association, further information from Ian Rushforth, 6, Mansfield Avenue, Quorn, Loughborough, LE12 8BD or at http://britishsuperkartcc.com/

Historic and Classic Kart Racing:

http://groups.msn.com/historicclassickartclubforgreatbritain for the club's website.

Summary of Main Kart Classes for 2008

| Class | Number Plate/No. | Weight kg* (with driver) | Ages | Tyres - Dry | Tyres - Wet | Comments |
|-------------------|------------------|--------------------------|--------|-------------------|---------------|---|
| Comer Cadet | Yellow/Black | 99 (S60 = 95) | 8-13 | Dunlop SL3 'RAC' | KT3 'RAC' | 60cc Comer sealed engine, clutch |
| Honda Cadet | Yellow/Red | 100 | 8-13 | Dunlop SL3 'RAC' | KT3 'RAC' | GX160 4-stroke engine, clutch, budget class |
| WTP Cadet | Green/White | 103 B5 (93 old B1) | 8-13 | Dunlop SL3 'RAC' | KT3 'RAC' | 60cc WTP sealed engine, clutch, B5 Electric Start |
| Junior TKM 2S | Blue/White | 128/136/142 | 11-17 | Maxxis SLC | F TKM | As TKM with restrictor, optional clutch |
| Junior Extreme | White/Black | 138 | 11-17 | Maxxis SLC | F TKM | Extreme 115cc engine with restrictor, champs class. |
| Junior TKM K4S | Blue/Yellow | 140 | 11-17 | Maxxis SLC | F TKM | Jnr version of F TKM 4S, clutch, restrictor |
| Honda Junior | Blue/White | 152 | 11-17 | Dunlop SL1 | KT3 | 2 x GX160 Honda 4-stroke engines with clutch |
| MiniMax | Yellow/Black | 135 | 11-17 | Vega SL8 'JAG' | Vega W2 'JAG' | Restricted version of Rotax Junior Max |
| Junior Max | Red/White | 148 | 13-17 | Vega SL8 'JAG' | Vega W2 'JAG' | Junior version of Rotax Senior Max |
| KF3 | Yellow/Black | 145 | 13-17# | B'stone YGB 'MSA' | YEJ | 125cc international TAG class |
| Junior Gearbox | Red/White | 155 | 13-17 | Dunlop SL4 | Dunlop KT10 | Jnr entry level gearbox class, 85cc, 6 speed |
| TKM 2S Extreme | Red/White | 148/ Heavy 163 | 16 | Maxxis SLC | F TKM | BT82 piston port, optional clutch |
| TKM K4S | Red/Yellow | 162 | 16 | Maxxis Red Label | F TKM | 200cc 4 stroke, clutch |
| 100 National/K100 | Green/White | 160 | 16 | Vega SL6 'GB' | W2 'GB' | Earlier reed/rotary valve engines, 24mm carb |
| Rotax Max | Blue/White | 162 | 16 | Vega SL6 'JAG' | Vega W2 'JAG' | 125cc d/drive commercial TAG class (electric start) |
| Rotax Max/177 | Green/White | 177 | 16 | Vega SL6 'JAG' | Vega W2 'JAG' | Heavyw't version with 85kg min driver weight |
| Honda Senior | White/Red | 175 | 16 | Dunlop SL1 | KT3 | 2 x GX160, clutch, 4-stroke |
| World Formula | Green/White | 165 | 16 | Bridgestone YJL | YGR | Economy entry level Briggs & Stratton 4-stroke |
| KF1 | Yellow/Black | 160 | 16 | Dunlop DDM | KT10 | Premier internat. champs class, 125cc TAG |
| KF2 | White/Black | 160 | 16 | B'stone YGB 'MSA' | YEJ | International 125cc TAG class |
| 125 ICC UK/KZ2 | Green/White | 180 | 16 | Dunlop SL4 'ABKC' | KT10 | 125cc reed valve with 30mm carburettor |
| Super ICC/KZ1 | Yellow/Black | 175 | 16 | Dunlop SL4 or DCH | KT10 | Premier championship version of KZ2 |
| 125 Open | Blue/White | 185 | 16 | Dunlop SL4 'ABKC' | KT10 | Reed or rotary valve tuned 125cc engines |
| 250 National | White/Black | 195/200* | 16+ | Maxxis CIK MH | WT8 | Motocross 250cc single cylinder engines |
| Superkart Div 1 | Varies | 210 | 16+ | Open | Open | Twin cylinder 250 + Rotax 257 + 125 twins |
| Formula 210 | Red/White | 185/190* | 16 | Dunlop SL3 | KT5/6/8/10 | Classic Villiers 197 or replicas |

Key: + means 17 years minimum for long circuit racing. 2S: 2-stroke engine; 4S: 4-stroke engine (Classes are 2S unless otherwise shown)

Many class regulations call for specific tyre markings on the tyres e.g. ABKC, JAG, MSA, GB etc. See Kart Race Yearbook. Junior classes have a minimum weight of the kart, less driver, for safety reasons. Junior TKM 94kg or less, MiniMax 104, Junior Max 108, KF3 105 Junior TKM 4-stroke 105kg, Honda Junior 117kg, Junior Gearbox 115kg. # KF3 may start at age 12 for experienced drivers *250/210 Gearbox has two weights, one when short circuit or no bodywork is fitted, the heavier for when long circuit bodywork is fitted.