RACING SEATS
TILLETT

Choosing your new kart seat

There are many factors to consider when choosing a new kart seat.
If you have had a seat in the past. Do you know the size and shape? Does it still fit? If not, where are the gaps or pressure points? Will the rigidity suit your new kart/engine combination? Finally, if you are in a team will they be happy if you choose a different shape?

Choosing a shape

Shape does not make as much difference as the teams would have you believe, but they will be nervous of miss positioning the seat and may want you to use the shape they are regularly fitting. This is fine until the seat is not the right fit for you. An ill-fitting seat can cause a driver to damage their body or hang on the wheel, neither of which are good for ultimate performance. Different shapes are fine if they are put in the chassis with the drivers back in the same place and are made with the same materials, then they will handle the same. That said, a significant angle change of the back will alter the handling, especially for bigger driver and this scenario should be viewed differently.

T11
The most common shape used now is the much copied 58° T11 which is by far the most popular shape. The T11 has a huge range of 22 sizes. Drivers from a 12-year-old up to a 130 kg man, are all catered for. Many of the T11 sizes solve age old problems. WT (Wide Top) sizes have been made for drivers with a slim hip and an athletic torso, (or maybe a thick rib protector). Also, available are a series of WH (Wide Hip) sizes for drivers that end up with severe bruising in this area.
If you are not below 12 years old, not above 1.8 m or over 35, this T11 is the seat you will most likely use.
T5
The 63° T5 is ideal for the 8 to 12 year old drivers. The more upright seating position helps them keep good control and enables a shorter driver better vision over the steering wheel.
T9.5
The reclined 38° T9.5 is for the very tall drivers. This can be used to good effect, lowering the centre of gravity for drivers whose height makes the kart unstable on fast corners.

Choosing a size

This is important, as a good fit is essential for the protection of the driver and the handling of the kart. If a driver is loose in a seat he will pull to steer, pulling himself out of the kart, making it bounce at the slightest provocation. To assess whether the size of a seat that you have in your possession is correct, sit the driver in the seat and feel the gaps over the leg bone, the hip bone and down the length of the ribs, from top to bottom. This must be done with any rib protection in place, but the race suit is not so important unless it has integral padding. The rib protector when worn tight, should not move inwards as the driver sits back in the seat. Once sat back in the seat, it should be difficult to squeeze your fingers between the seat, your ribs, hip and leg bones. It's important that all the points are evenly pressured and no one element is either loose or pinching. If one area feels loose, some firm foam stuck between driver and seat is acceptable. If it is pinching anywhere you need a different size.

To assess the size without having a seat in your vicinity, we find that denim jeans waist size, weight and height are good indicators. Coupled with information about the chest circumference and rib protector type. An over thick rib protector can make two sizes difference and leave you with very loose hips, so this is to be avoided (i.e. buy a P1) or accounted for with a WT wide top T11 seat.

Choosing a rigidity

Tillett Racing Seats were the first to discover that seat stiffness affected lap times.
Changing the seat rigidity alters the amount of weight transferred to the outside front tyre, it is also partly responsible for the amount the inside rear wheel can lift through the corners. This gives you the ability to balance a chassis that may not be perfectly adjusted for the track surface, driving style or weather conditions.
Standard OEM seats supplied with many karts are made to a price and are often inconsistent in rigidity and strength. To make sure that the seat you buy this year will be the same size and rigidity as one you buy next, Tillett Racing Seats are made to set specifications. They are also unique in that they can be bought in 8 different rigidities including the hybrid VGR /VRS. The rigidities which are available in each shape are shown on the size / rigidity guide.

New Style T5 and New Style T11 seats - These are made with a process that allows different rigidities to be made using a highly accurate mechanised process and the system can make seats weighing within 5g of each other. Therefore, the rigidity can be tuned to the specification equalling the tunability of the handmade seats. There are four rigidities in the "New style" specifications and all four are relevant to the rigidities commonly used by the kart chassis in use today. The New Style T5 and T11 are cut by robot to increase the accuracy of the product.

Flexible VTI, and VG - The flexible VG seats are a favourite with the Rotax Max drivers and almost always used to win the competitive Euro Max series. "V" seats are made of non-standard composite materials; they are lightweight, and we find that many people use the "VG" seat to good effect in all sorts of different classes.
Using the same material specifications, there is also the ultra-flexible VTi and this is ordered by customers determined to get the most flexible seat possible. The two stroke Cadet / Minikart classes seem to prefer this specification.
VG and VTi are two rigidity specifications that are available in the New Style T5 and T11 seats.

The "t" – The "t" rigidity is currently the most popular stiffness with OK Junior, OK Senior, X30 and KZ and sits in between the Standard and VG rigidities.
The T11t spec was used in an OTK chassis to win the 2017 KFJ World Championship with Dexter Patterson and Jorrit Pex used it to win the 2018 KZ European Championship.
The "t" is one of the rigidities available in the New Style T5 and T11 seats.

Standard Rigidity - This is based around basic uncovered seats. The standard rigidity model of each shape only has the letter T plus its number, for example the T8.
"Standard" is one of the rigidities available in the New Style T5 and T11 seats.