Kart seat positioning

Kart seat positioning is a difficult but important job. The driver is half the weight of the vehicle so if their weight is out of position the kart will be unbalanced and difficult to set up. Many manufacturers will give you a set of dimensions which can confuse you unless you are using the exact shape and size of the seat that they used to get the information in the first place. Therefore, to get the correct balance in the chassis it is important to understand where the driver's back is in relation to the rear axle. These instructions are to help with attaining the most common position for the average 70 kg driver. Sometimes a compromise position will have to be used for smaller or larger drivers.

To accurately fit a kart seat, place a flat sheet of plywood, or something similar, on your kart stand, then space the chassis tubes from the wood to give you the correct ground clearance. 5 mm is usually the maximum dimension below the tubes with a modern chassis. If you do not have this information, set your kart up on a flat piece of ground with the correct tyre pressures. Take a note of the distance the seat protrudes below the chassis tubes when you have around 15 mm clearance between the floor and the seat base. Next place the seat on the wooden board, like this it is stable and easy to hold in the ideal position. (Tip: A weight placed inside the seat will help keep it stable and upright.) If the seat has a flat bottom it is usually best to use the set angle provided.

To get the second and most vital dimension, (Which is the actual position of the driver's back) take a 90° line (approx.) from one side of the spine recess, which runs down the middle of the back of the seat, and measure the shortest distance to the axle surface. With a 70 kg driver this dimension is currently an average of 15.5 cm and 13.5 cm for KZ. (See picture) (Pre-2005 karts 21.5 cm) (Karts aged between 2005 to 2009 use 18 cm)

You must not use the spine recess to measure this, as it varies in depth too much between each type of seat. Please note that bolting a substantial amount of lead weight to the back of the seat can make a difference to the seat position. It forces you to position the seat further forward to achieve the same balance.

Before marking the holes, bend the flat metal tabs of the seat stays so that the flat parts are parallel to the surfaces of the seat. You can use a large adjustable spanner to do this.

Mark the holes, (A good tip is to put a blob of paint on the end of an M8 bolt and pass the bolt through the stay.) spotting the seat in all the four main mounting points. Then all four main mounting points can be drilled.

Once drilled, use a 40mm diameter Tillett nylon seat washers or similar. Or use aluminium mounting plates between the composite and the seat stays. Additional spacers may be used to fill any gaps between the stays and the seat, but they must be rigid spacers, not rubber. There usually will be a gap between the seat and the front stays which should be filled with the appropriate number of spacers.
Now tighten the bolts until very tight. Use the correct amount of spacers to keep the composite from being pulled out of its natural shape and to maintain the seat in the desired position.

Extra seat stays can now be fitted if used. Keep the head of the bolt away from the top edge of the seat. Fasteners that are fitted too near the top edge of the seat will bruise the ribs.

When you are fully satisfied with the performance of the kart, record the position of your correctly fitted seat, the size and the shape. Other measurements to keep a record of are; from the furthest forward edge of the seat, to the main chassis rail where your heel would normally rest and from the axle surface up to the top edge of the seat. Also keep the dimension that the seat shows below the chassis tubes. However, remember that these two dimensions are only applicable to that specific seat size and chassis model.

To prepare the seat for wet weather, drill two holes for water drainage at the lowest point of the seat. Your seat is now ready for use. Please remember to consider that your rain tyre may be of a different diameter to the dry; therefore, check that when they are fitted there is sufficient ground clearance.

**VERY IMPORTANT** when bolting through foam or covering, re-tighten the seat bolts after the first few laps. Initial testing results will be affected if the bolts have not fully compressed the material and foam.