# LO206 Seat Installation Tips

*Seat positioning is one of the biggest influencers to how a kart will handle*

Proper seat positioning is critical in getting your kart to handle well. A well-balanced kart will roll better, get the correct weight transfer, and corner better. Because of the size and configuration of the Briggs LO206 engine this can become quite challenging.

The LO206 engine is larger and much heavier than most 2-cycle engines. It also has its sprocket facing inwards vs most 2-cycles where the sprocket on the outside of the bearing carrier. This puts too much weight on the right side and creates an imbalance. This especially problematic if the weight is outside the frame rails. You want weight inside the frame rails to maintain your center of gravity.

Most importantly there needs to be clearance so the clutch doesn't hit the seat. You want to be able to stick a finger in between the seat and the clutch as the seat will flex when cornering. Most karts on the market today are designed for 2-cycle engines. Seat mounting struts are positioned to put the driver in the center of the kart. 4-cycle specific designed karts have a more up and down left side seat strut and typically already have the driver to the left somewhat already. This picture shows how the seat needs to be offset to the left to account for a LO206 engine. The picture below is a COMPKART 4R chassis, which was originally designed for lower horsepower 2-cycle classes like Yamaha and KA100. It was necessary to bend up the left side frame rail to create clearance for the clutch. A nice feature of this kart is the adjustable seat strut on the right-hand side.

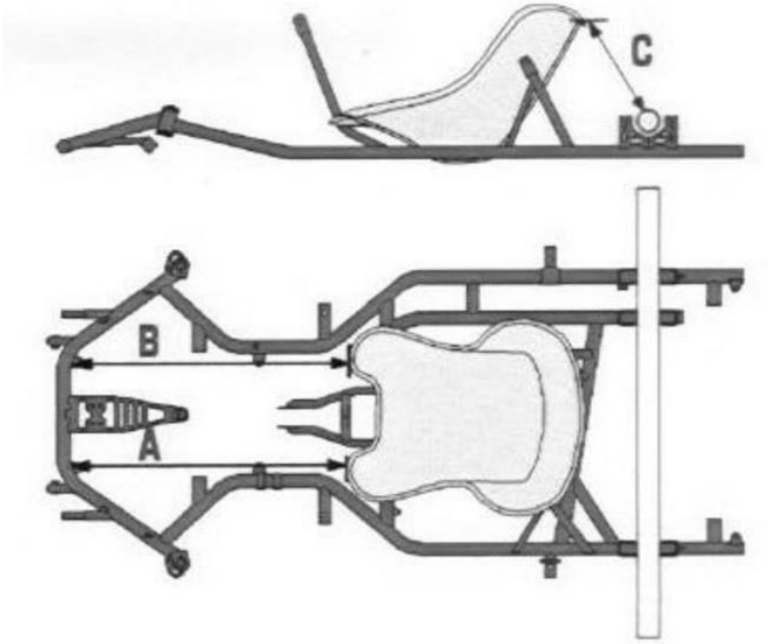
When mounting a seat the first thing you are going to want to do is start by positioning the seat on the kart. To do this you want to sent the seat to be flat with the bottom of the frame rails. There are mounting boards and tools you can buy to make this easier to set the seat on attaching the board to the kart. Some can be relatively expensive, especially for a job you don't do often. My inexpensive solution was to take a piece of plywood, cut it to size, drill 4 sets of holes in it and then attach it with zip ties. Here is a picture of how that looks. It works well and gets the job done. Clearly an OTK seat mounting hardware with adjustable height is the best way to go. You want your seat low to lower the center of gravity.

However, the bottom of the frame rail is what I have found is the farthest down you can go safely without the seat dragging. Especially if you have a track with curbs you are going to go over. On tracks with no curbing you can try to go down further. I have ruined a few seats by having the seat below the frame rail. Sometimes it is desirable to have the seat mounted a little higher. Especially in low grip situations. A higher seat will transfer more weight and give you more side bite. This is not probably something you would do with a taller driver, but a shorter driver might benefit. An OTK seat mounting kit allows you to adjust the seat up and down. If you want to move the seat up with my board solution, a good way I have found is to place a sprocket on the board and then put the seat on top of it. If you want to go even higher you can add more sprockets. This allows you to move up in small increments. Conversely, if you want to mount lower, stick two sprockets, one on each side in between the the frame rails and the board before attaching zip ties.

To ensure that the bottom of the seat is flat on the board and stays in place while mounting, I recommend placing a lead weight in the bottom of the seat. See picture, this is actually a 20lb weight and overkill for the job. One or two 5lb weighs will do the trick. Having the weight in the seat will make it much easier for you to position the it and keep it from moving when you go to drill holes. Without this any slight bump will cause the seat to go out of position and you will have to start all over measuring and aligning the seat.

Next, you are going to want to take some measurements and place the seat in the correct postion. There are a number of locations you can measure from. I typically prefer to measure from both the left and right fronts of the seats to the front frame rail. This length is roughly around 60cm in length. You would likely increase this for a taller driver and make shorter for a short driver. Another place is to measure from the axle to the top of the seat. Both measurements are shown in this diagram below. You can virtually use any location to measure from. You may have measurements you want as long as it is consistent. Kart manufacturers will provide measurements for setting up your particular kart. Check to see if these are available before starting.

Seat position can greatly affect the handling of the kart. Moving the seat backwards will add more rear grip, where inversely moving it forward will take away rear grip and add more front grip. This is a great kart tuning tool. The correct position for your track surface and grip conditions may vary from race to race. So, don't assume you can put your seat in one spot and leave it.




With the seat in place, it is a very simple process to drill the holes. Start with the seat struts on the back of the seat. Drill these holes and attach the seat. Make sure to put a metal washer between the seat strut and the seat. This will help keep the seat from cracking when it flexes. Once the seat struts are on, tighten them, but allow a little play to let the seat move. Then attach the bottom of the seat. Make sure that the seat brace tabs are parallel to the seat. If they are not you will need to bend them. This allows the seat washers to go in place. There is a good video on http://206-insder for more details.

If you are racing a kart designed for 2-cycle (i.e. OTK/Tony Kart), you are probably going to need to create more clearance for the engine and get the seat left to give the kart weight balance. To do this you are likely going to need to move the seat struts some as they will not be in the correct position. Also, I highly recommend not to run the LO206 with the clutch outboard. This is really not how the Briggs LO206 engine was designed to run. You will also end up with the engine mount hanging the engine off the right side of the kart. This will create a very bad weight imbalance and affect the handling of your kart.

Some karts will come with adjustable seat mounting struts. The COMPKART Covert 4R comes with an adjustable right side seat strut. If the seat struts are fixed, there are a few ways to move them over. One is banging on it with a rubber mallet. However, what I have found is by far the easiest approach is to use a 40mm or 50mm axle. Place the axle in the hole of the seat struct cross attachment and essentially use it as a big bending bar (see picture n the left). Once you have bent the seat strut to the correct position, you are probably going to need to use a crescent wrench to bend the tabs on the seat struts so they will be parallel to the seat for mounting.

In summary, mounting a seat is never something you should take lightly if you want your kart to perform as optimal as possible. Experiment with the seat position, forward, backwards, and side to side. Scales are your friends here. You are looking for a kart that has 50% left side weight, 43% front, and 49.5% cross. Moving the seat and weights to get this correct balance, will page huge dividents.

Hopefully, these tips will help. Also check out the video on http://206-insider.com.

As always if you have any questions at all, feel free to email us anytime at 206insider@gmail.com. We love to answer your questions.