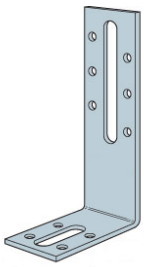
Building your own Go Kart Speedometer

Parts needed

- 1 - Sigma 800 bicycle computer

- 1 – bicycle brake shoe holder

- 1 – Slotted “L” Bracket from local hardware store



- 9 feet of 18 gauge twin wire

Step 1 –

We will start by finding or buying a bicycle brake shoe holder.

Remove the rubber shoes (pic A.1) and glue on the Sigma Sport Sensor inside the brake shoe holder (pic A.2). Use a good water resistant glue to attach this sensor.

A.1


A.2

Step 2 –

The bracket used for this next step is kind of a “Fit to your project” item.
The brackets we like are used to bolt a light fitting to a ceiling or wall mounted electrical junction box. They come flat but you can easily bend the end into an “L” shape to make an L bracket out of this one.

You are looking for an angle bracket that has a slotted end so you can adjust the distance of your sensor to the magnet. Bolt your brake pad, now sensor holder onto the longer flat side of the “L” bracket as shown.

Step 3 –

The computer comes with a 21” long, 18 gauge, two wire cable. You will probably need to splice your cable to make it longer for your kart. 6-9 extra feet would probably be what is needed to fit most karts.

So splice in your 18 gauge wire one wire at a time so you keep the polarity correct. After you solder the connections use some heat shrink so seal it back up and provide some strength.

Step 4 –

Find a location on your kart that you will have the space to bolt your “L” bracket and adjust it to be near your magnet.

Now you will need to attach the Sigma magnet to your axle. I like to fit the magnet into the key way and secure it with glue, tape or zip ties. However it works for you just make sure it is secured onto the axle in a position that will pass the bracketed sensor.

Bolt your bracket and sensor onto the kart so that the magnet passes the sensor as it rotates around. You can adjust the sensor up and down by sliding it in the slot. Also you can bend the bracket a bit if you need it to be closer or farther away.

Step 5 –

The Sigma Sport Computer is simply attached to the steering wheel with the provided rubber strap. So route your wires in a nice fashion to your steering wheel then fasten the Computer to your Steering wheel.

Setting up the Sigma computer is a bit tricky but just follow the instructions that came with the computer step by step and you shouldn't have any problems.

When you install the computer you have to measure the circumference of your closest tire and enter this WS (Wheel Size) into the computer. This number needs to be converted to mm. So you multiply your inches by 25.4 constant to get mm. Next you have to convert that number to miles so you multiply the mm by 0.621 and that gives you your WS value that you key into the computer. I guess that is why it is so accurate. If you get different tires, you just measure and re-calibrate the computer. If you use kilometers you can skip the last step.

This computer comes with an average speed function so if you see a – sign by your speed its OK! Actually it displays a + sign if you are going faster than your average speed, a - sign if you are going slower than your average speed, and a big dot if you are going your average speed.

That is all a bit confusing so I found an easier way to do the set up if you are interested, try the following.

1. Set the WS value to 1000.
2. Check the air pressure in your tires.
3. Get out on the road and check and record the BC800's trip odometer. It does not really matter how far you go. I went 2 miles, but have gotten very accurate results with 8 miles.
4. Calculate the correct WS value using the formula below.
5. Key in the corrected WS value into your BC800 and retest.
6. Feel good knowing that your BC800 is right on!

Formula

True Mileage * Current WS value / BC800 trip odometer reading = Accurate WS value

Example

My True Mileage was 18 miles
My Current WS value was 1000
The BC800 trip odometer reading was 15.13

18 * 1000 / 15.13 = 1189.68 (I rounded to 1190)

The Accurate WS value is: 1190

Well that's it!

You can buy your BC800 from any good bicycle shop or online. Just do a search for BC800 and you should get a range of suppliers. I purchased mine for about 20 USD and paid 5 for shipping. But I think they range from 12–30 USD depending on who you buy them from.

Have fun and as always remember to be safe and most of all be creative!

Note:
Special thanks to Toms Toys, Sylvain, and Jamie Webb for resources.