Mountain a Garmin GPS on your BMW Motorcycle

Introduction

The following document will describe how I mounted my Garmin 1490T GPS unit to my motorcycle. Garmin makes a specific GPS unit (the Zumo) for motorcycles but it costs three times as much as the unit for the car. The car units have all the features of the Zumo without the cost and even in bright sunlight you can see the screen. The only downside is it is not glove friendly. This is a minor inconvenience given the cost. You can set the 1490T before taking off and need not mess with it during operation of the motorcycle which is not recommended anyway. It also has Blue tooth so you can hear voice instructions via a Blue tooth headset.

Since I use the Garmin mounting suction cup you can really use any GPS unit (Tom-Tom for example and others) because the bracket will take any suction cup device. I have put many hours on my Garmin on my motorcycle and the mounting bracket and suction cup have worked nicely.

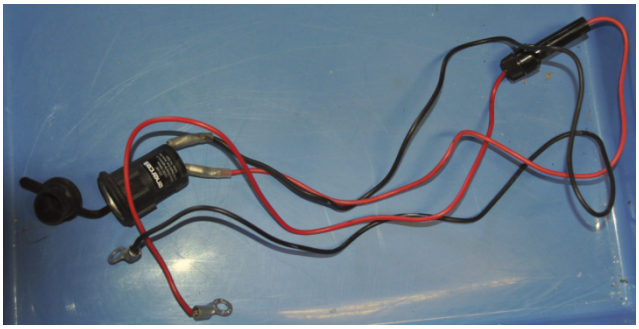
The other feature is the all-weather feature of the Zumo. My Garmin sits behind my windshield and I have driven it in rainy weather and it does just fine.

This document will describe how I mounted the unit and how to install the electrical connection and then how I operate it. I will first show the mounting bracket, the removal of the gas tank, the electrical installation and finally operation, all liberally illustrated.

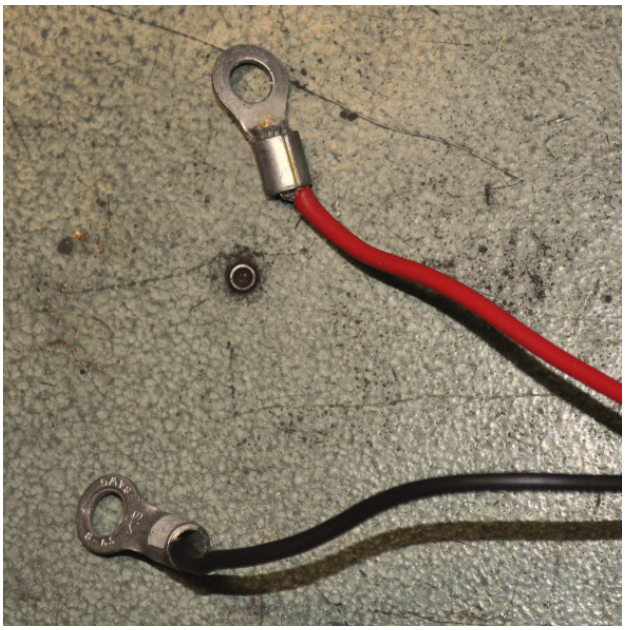
Needed Parts

In order to accomplish the mounting you must have the Garmin power cable, a female power socket and a few terminal lugs. You will need some cable ties too.

The Garmin has two power cables, one with a built in FM traffic receiver and one that does not have this feature. Either cable will work, but I recommend the strait power cable without the FM traffic receiver.



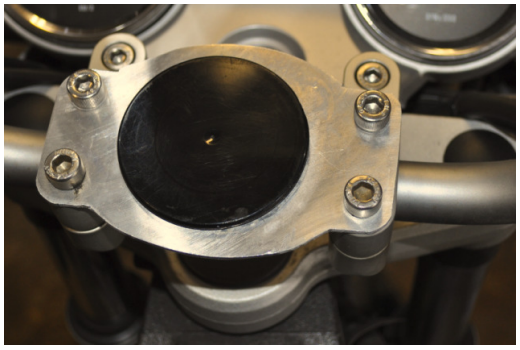
The power cable is shown on the left while the female power coupler is shown on the right. I obtained this from Radio Shack. I do not remember the part number but all stores stock them. The only thing I had to do is solder to lug terminals on the female power cable on the right. Make sure you get terminals that fit the bolts on the battery. I used a solder gun to solder the cable ends to the terminals. You can also crimp them, but soldering insures a better connection.

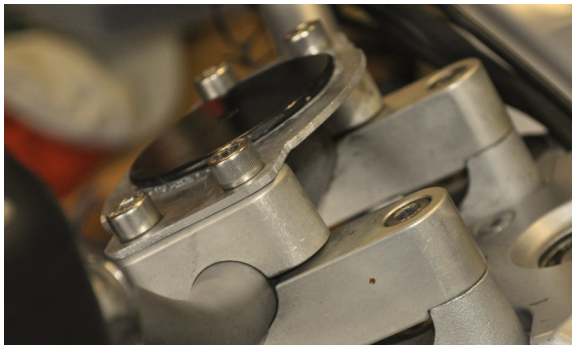


Finally, push the Garmin power cable into the female power coupler and then wrap some electrical tape around the two units to prevent water from entering the connectors. This connector sits under the gas tank, but the front of the gas tank is open to the weather and moisture will get in if you are riding in rain.

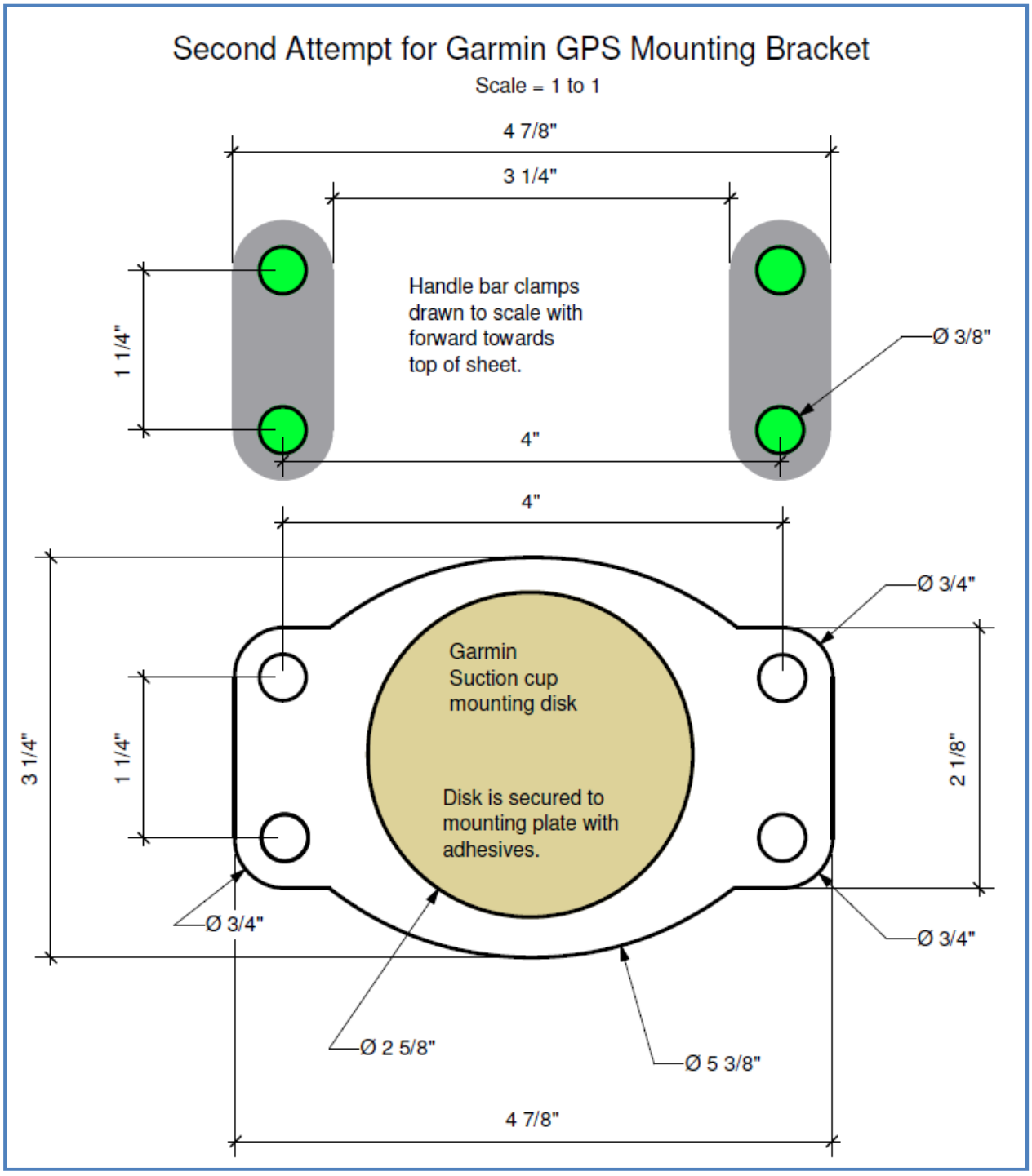
Mounting Bracket

This is perhaps the item requiring the most effort. I will show a picture of it here followed by an engineering drawing that I used to cut the piece:





I used a 1/8th inch thick piece of aluminum and used a jigsaw to cut out the shape as shown (see drawing below). You will have to carefully measure the location of the four screw holes and cut the aluminum carefully. I then sanded smooth the surface after drilling the mountain holes. I used a CAD program to draw the plate then printed it on a paper (1 to 1 scaling) and glued it to the aluminum stock. Then using the jigsaw cut around the pattern. The mounting disk (black) was secured with epoxy to the base. I was careful to not mar the surface of the mounting plate when gluing it to the aluminum plate using a piece of wood and a clamp to insure enough pressure is applied during the epoxy curing process. In operation the unit sits just below the view of the instrument cluster and is easy to view the Garmin as well as the instrument cluster, not having to look right or left for the Garmin.



Then I secured the combined mounting base and aluminum plate to the top of the steering column as shown.

Removing the Fuel Tank

The fuel tank is easy to remove, if you know how! Please follow these suggest steps for the best success.

Prepare to remove the tank by having three sized torx bits sizes 25, 27, and 45. Have two bowls or lids where you can place the screws as you remove them so that you won't get lost putting them back in, and they won't wander off on your shop's floor as you work around the motorcycle.

The front wheel on the BMW tends to lean to the left. I used a heavy object placed on the floor to the left of the front tire to hold the wheel centered with the centerline of the motorcycle to keep it out of the way.

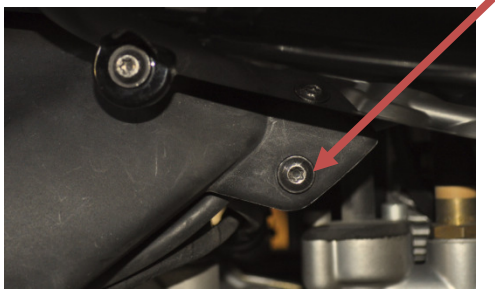
Let's work on the right side first.

You have to first remove the two seat halves by unlocking it with the key lock just below the saddle.

Using the size 25 torex remove the screw at the forward part of the side frame.

Place the screw in the container to keep it from scattering around the shop floor.

Next, remove the screw (a short one) holding the side cover on. Then pull the side cover off by pulling it straight out from the motorcycle. Remember, don't force these things and they won't break.

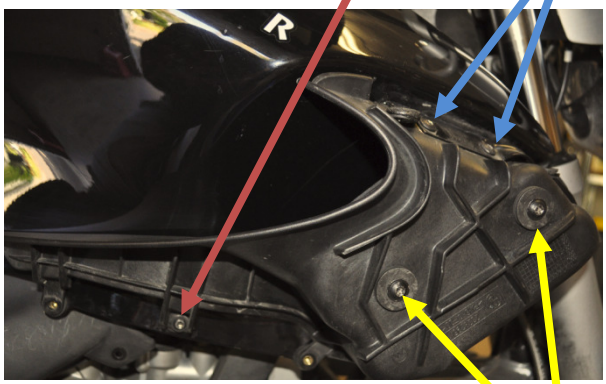


The next picture shows the two screws holding the cover of the oil cooler on the right side. There are actually three screws but the middle screw is covered by the plastic oil cooler cover:

Remove these two screws using the size 25 torex. Then gently remove the plastic cover by prying it up from its mounts on the top. (See oil cooler picture below) Once removed the oil cooler is shown here:

There is still one screw securing the inner oil cooler covering and it has a flat washer on it. Don't lose it!

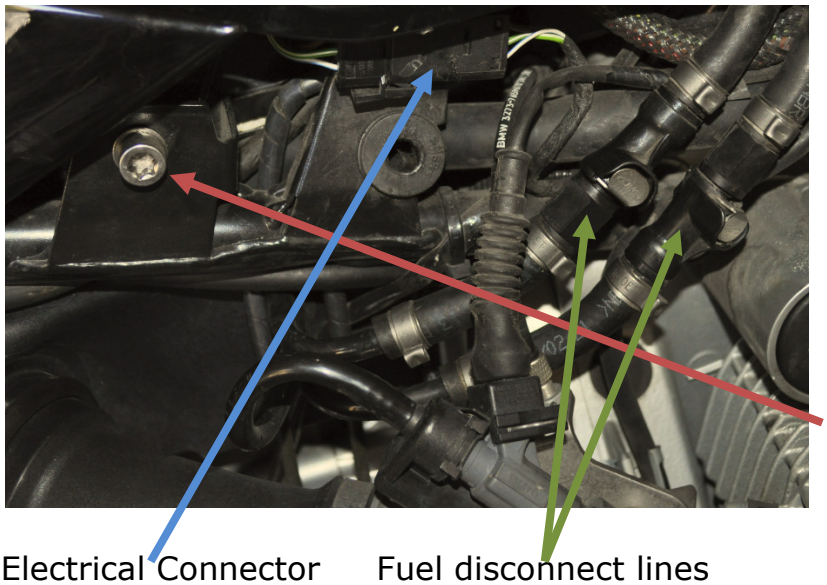
Then remove the two screws on the top of the inner oil cooler covering. These screws still use the size 25 torex and they are short screws. Remember that!



Then remove the two screw on the side of the oil cooler covering that have a large flat washer on them. Use the size 27 torex for this one.

We are now done with the right side. Do the same on the left with the exception that you don't have the black cover to remove. Put the screws from this side in a separate bowl or lid to keep them organized.

Now you need to take out the large bolt holding the rear of the gas tank. Use the size 45 torex. You will also need to disconnect the fuel supply lines from the fuel tank, as well as the fuel pump connector and the fuel vapor lines to the fuel vapor canister. See the arrows as shown:



The fuel disconnect lines are separated by pushing in on the silver tab and then pulling the lines apart. It takes a little effort to do this.

The two vapor lines are routed above the frame as shown here:

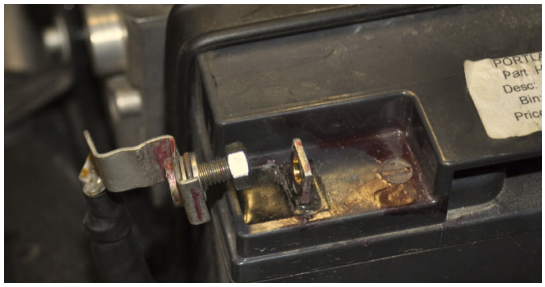
Two prevent misconnecting the lines when you get ready to install the fuel tank I placed a colored tape on one of the lines. The connectors simply pull apart, so do so carefully.

To help in disconnecting the electrical connector (for the fuel pump) you can lift the rear of the fuel tank up to allow you to more fully grip the connector to pull it apart. You have to squeeze the two tabs and pull left.

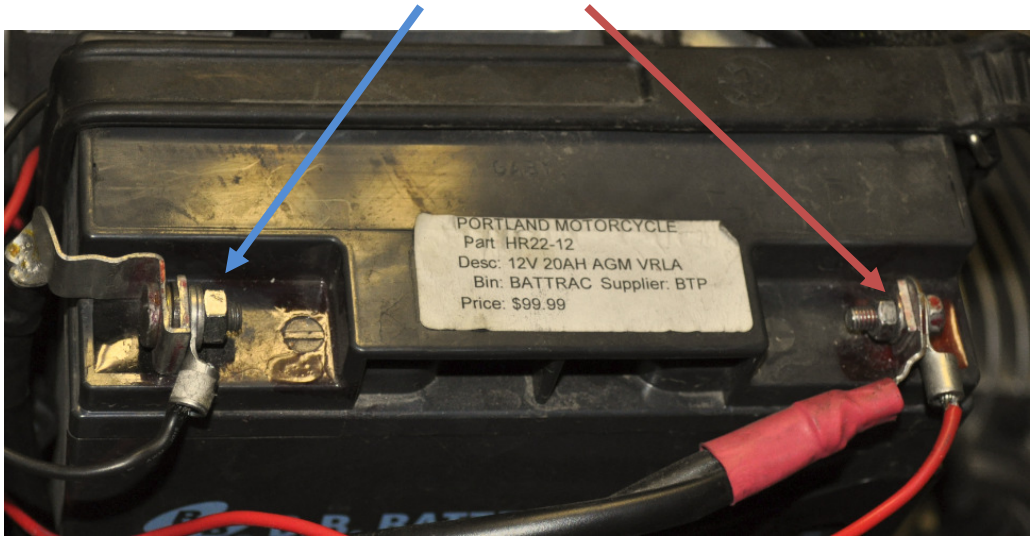
Now that you have everything disconnected pull the tank off by lifting it up and back from its front mounting knobs. Place the tank on a soft surface. Now we are ready to begin connecting the electrical power cable for the Garmin unit.

Connecting the Cable

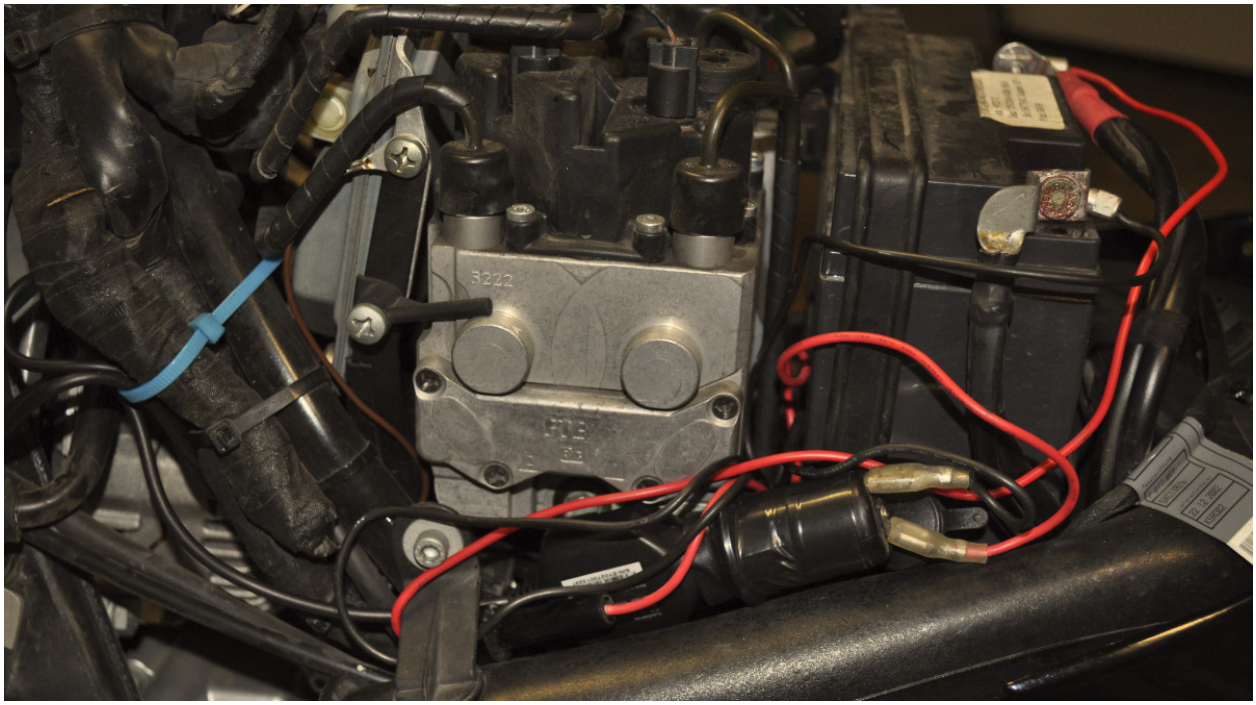
We will first connect it to the battery. It's always a good idea to disconnect the ground (-) side of a battery first to avoid arcing to ground from anything hot.



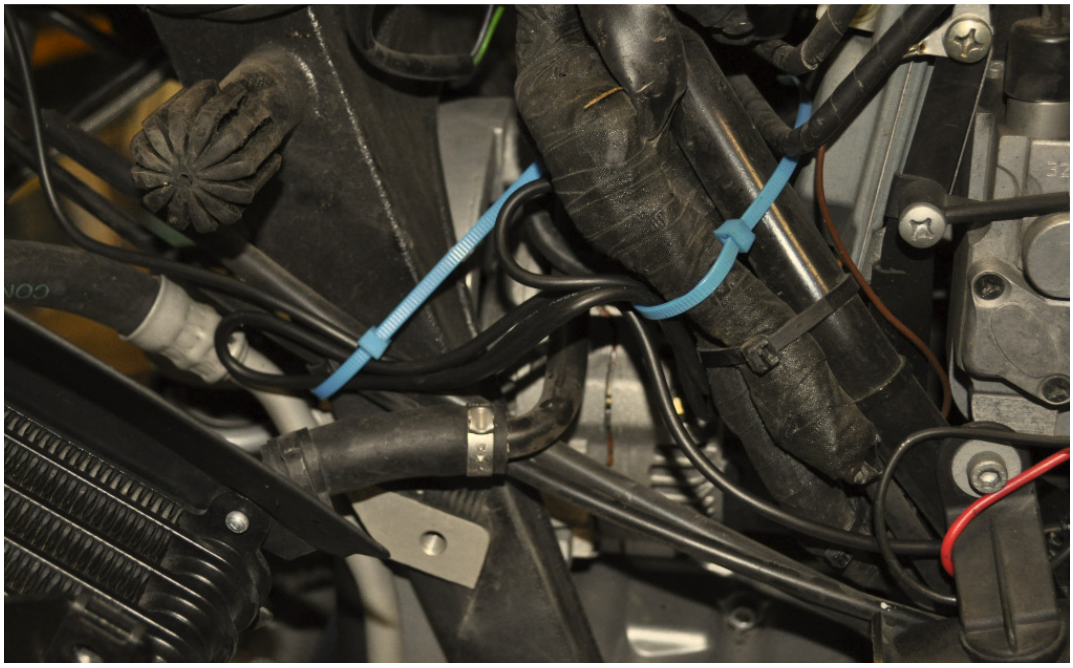
Next un-screw the positive (+) side and connect the red wire from the female connector (from Radio Shack). Then connect the black wire to the negative side of the battery: (Negative Positive)



Now we have to secure the cable in such a way that it doesn't interfere with other parts of the motorcycle and keeping wires from hanging out where they shouldn't be.



This is how I ran the wires. I used the blue cable ties (They should be black to be politically correct.) to secure the extra length of wires.



Here's another shot of how I secured the wires. Remember, this is on the left side of the motorcycle.

Here is a picture of the final installation: (Note the motorcycle vehicle icon!)

You now need to mount the gas tank back onto the motorcycle. Secure the screws in reverse order of their removal.

The suction cup mounting bracket is very secure. It also allows for the quick disconnecting of the unit when you park and don't want some low-life to steel it.

Here's another picture of the mounting while out on the road.

Any questions? Contact me at: snjvw@q.com