



MANYAKUS

# BMW R Nine T (K21) USB Charger Battery Tender



Manyakus

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# Disclaimer

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Much of the information on this procedure is provided for general educational and informational purposes only. It is not intended as, nor should it be considered a substitute for professional maintenance/work done at a certified dealership, garage or BMW maintenance center.

We do not make any warranties about the completeness, reliability and accuracy of this information. **Any action you take upon the information in this procedure is strictly at your own risk**, and we will not be liable for any losses and damages caused by the information contained in this procedure.



# USB Charger / Battery Tender Installation

## Parts & Tool required

### 1. Parts

Description	Part number
OptiMATE USB O-108	O-108
OptiMATE CABLE O-01	O-01
Double sided tape	3M VHB or equivalent



### 2. Tooling

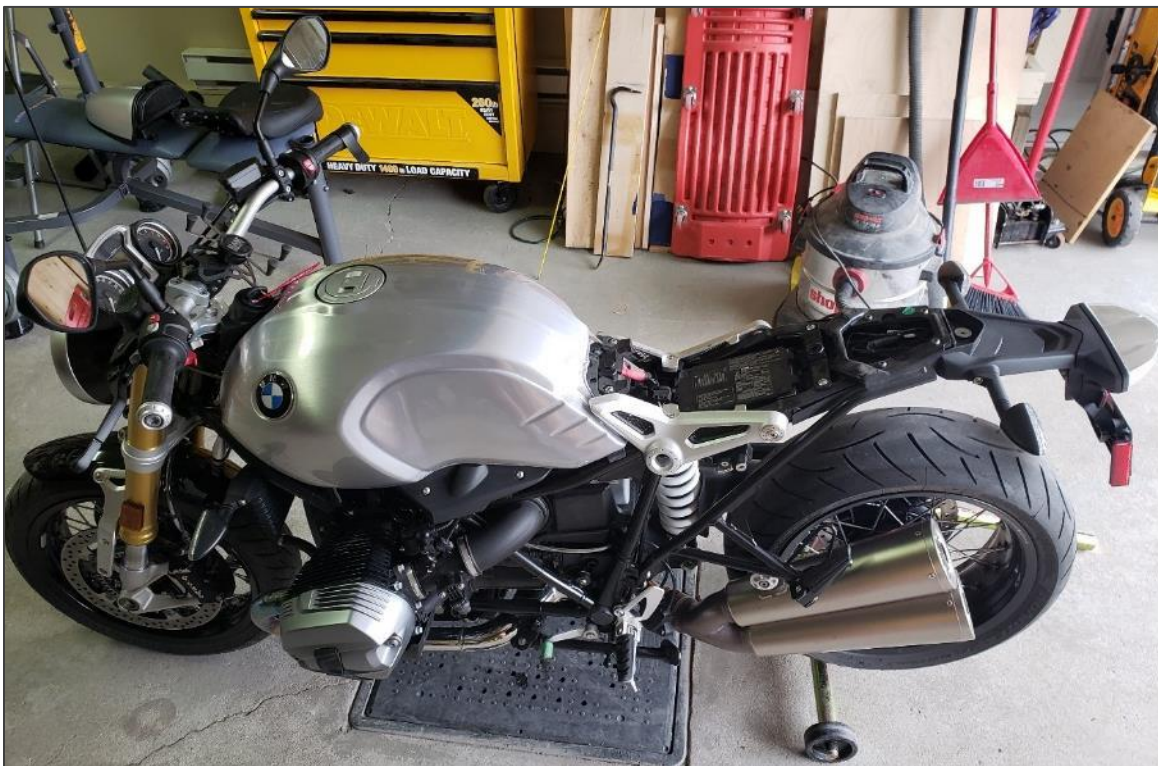
Description	Location	Torque Spec
Torx T30	Battery Bracket	8 N.m [70 in.lbs]
Torx T30	Seat Bracket Upper Top	8 N.m [70 in.lbs]
Torx T40	Seat Bracket Side Lower	19 N.m [14 ft.lbs]
Torx T25	Intake Air Pipe	Snug
Torx T45	Tank Front Bolt	19 N.m [14 ft.lbs]
Torx T25	Battery Point	2 N.m [18 in.lbs]
10mm Wrench	Battery Terminal	Tight



## Procedure

### Step #1: Remove Seat

With the BMW special tool, remove the rear passenger seat bolt, then remove the driver seat.





## Step #2: Battery Bracket

Remove the battery bracket with a Torx T30 bit.



## Step #3: Seat Bracket

Remove the seat bracket with a Torx T30 for the top bolt and with a Torx T40 for the side bolt.







#### Step #4: Air Intake Pipe Cover

Remove the two screws of the air intake pipe cover with a Torx T25 bit. Pull gently the air intake pipe cover towards you and towards the front wheel.





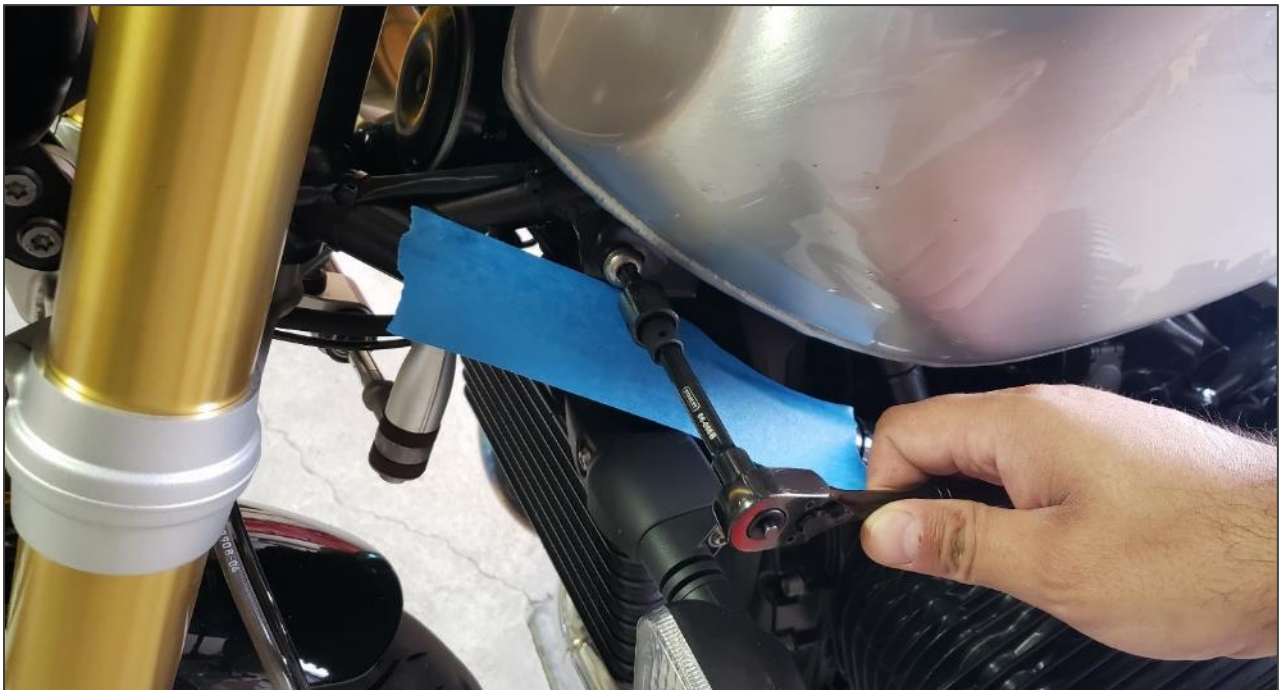
## Step #5: Diagnostic Port

Remove the diagnostic port that is located at the left side tank underneath the black cover.

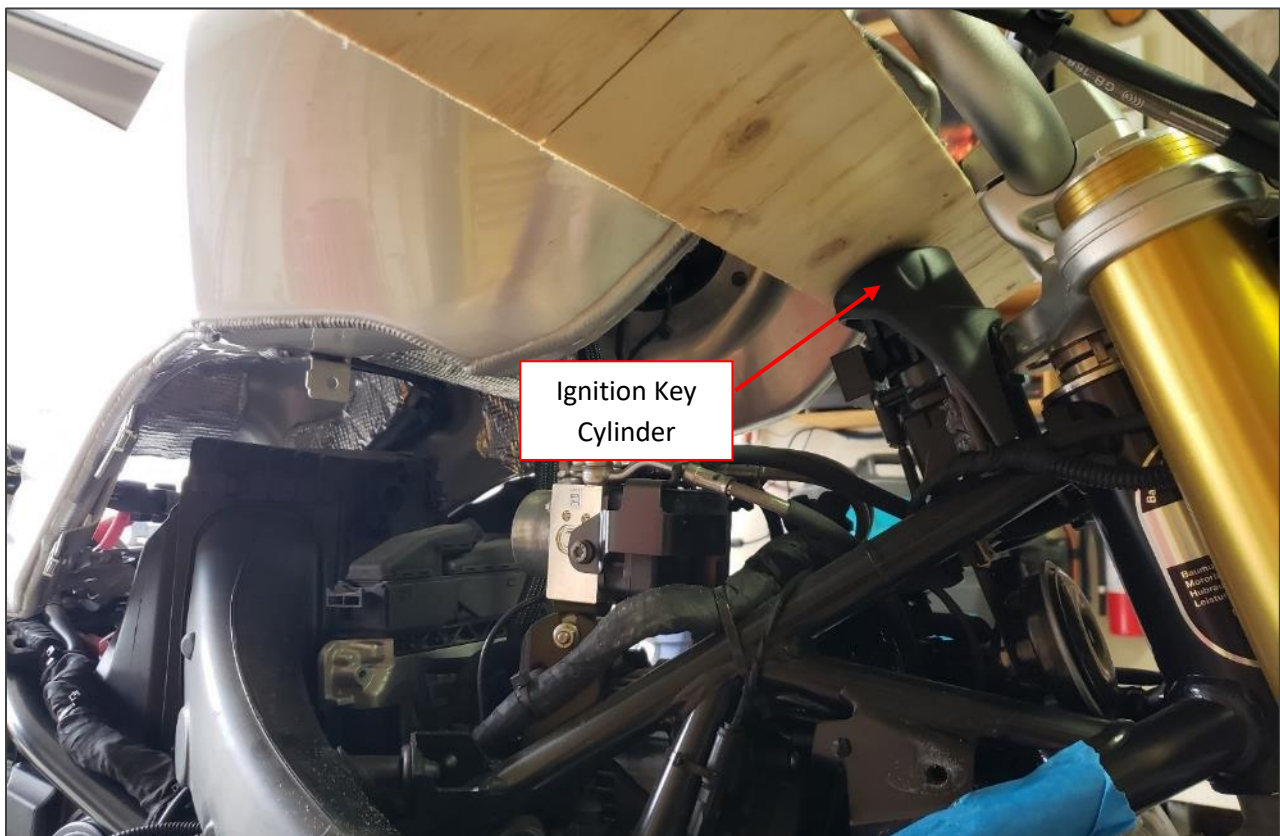
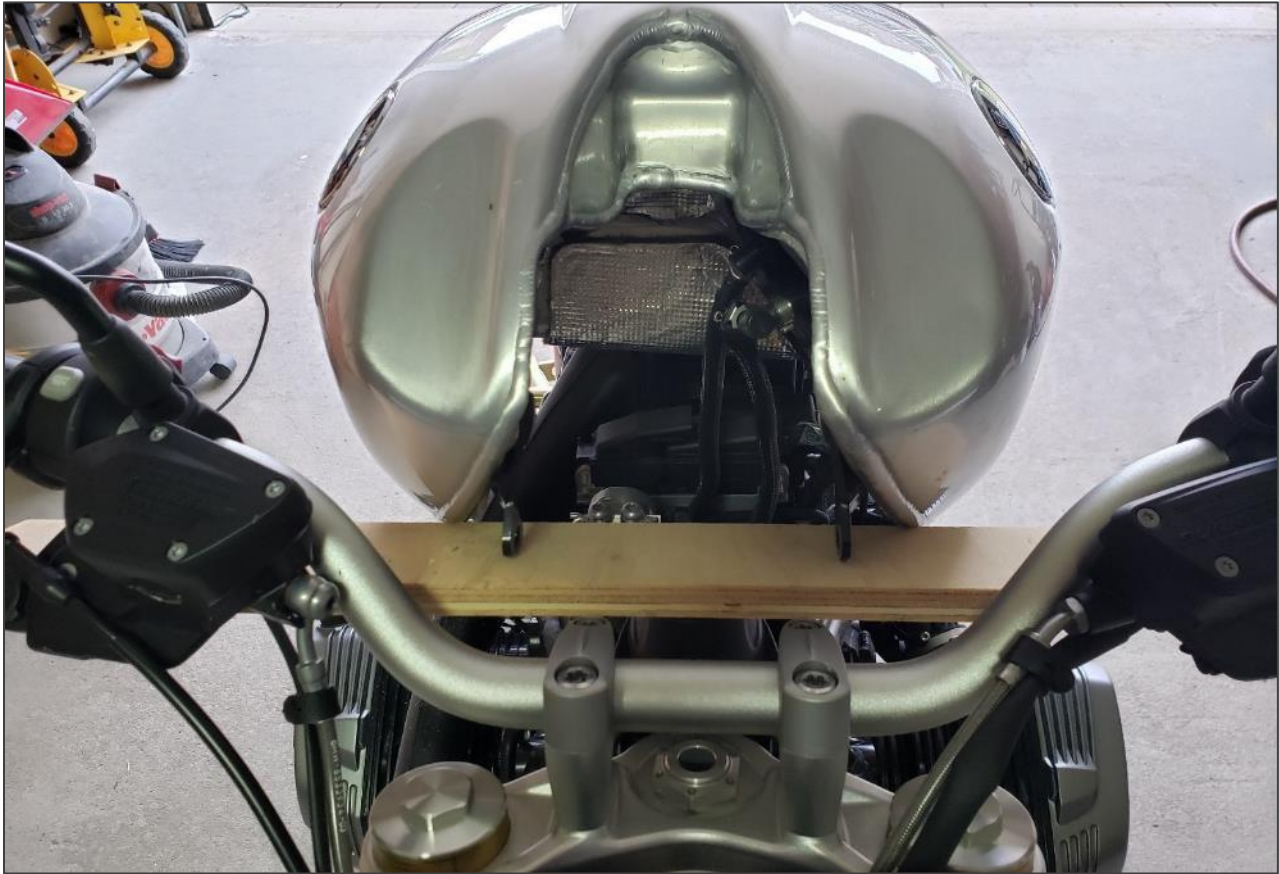


## Step #6: Tank Elevation

Put some painter's tape on the chassis/frame just below the two main tank bolts. Remove the two bolts with a Torx T45. Lift the tank from the front and put a piece of lumber/plywood between the ignition key cylinder and the bottom side of the tank. From this moment on, be careful not to tip over the tank since it is not properly secured.









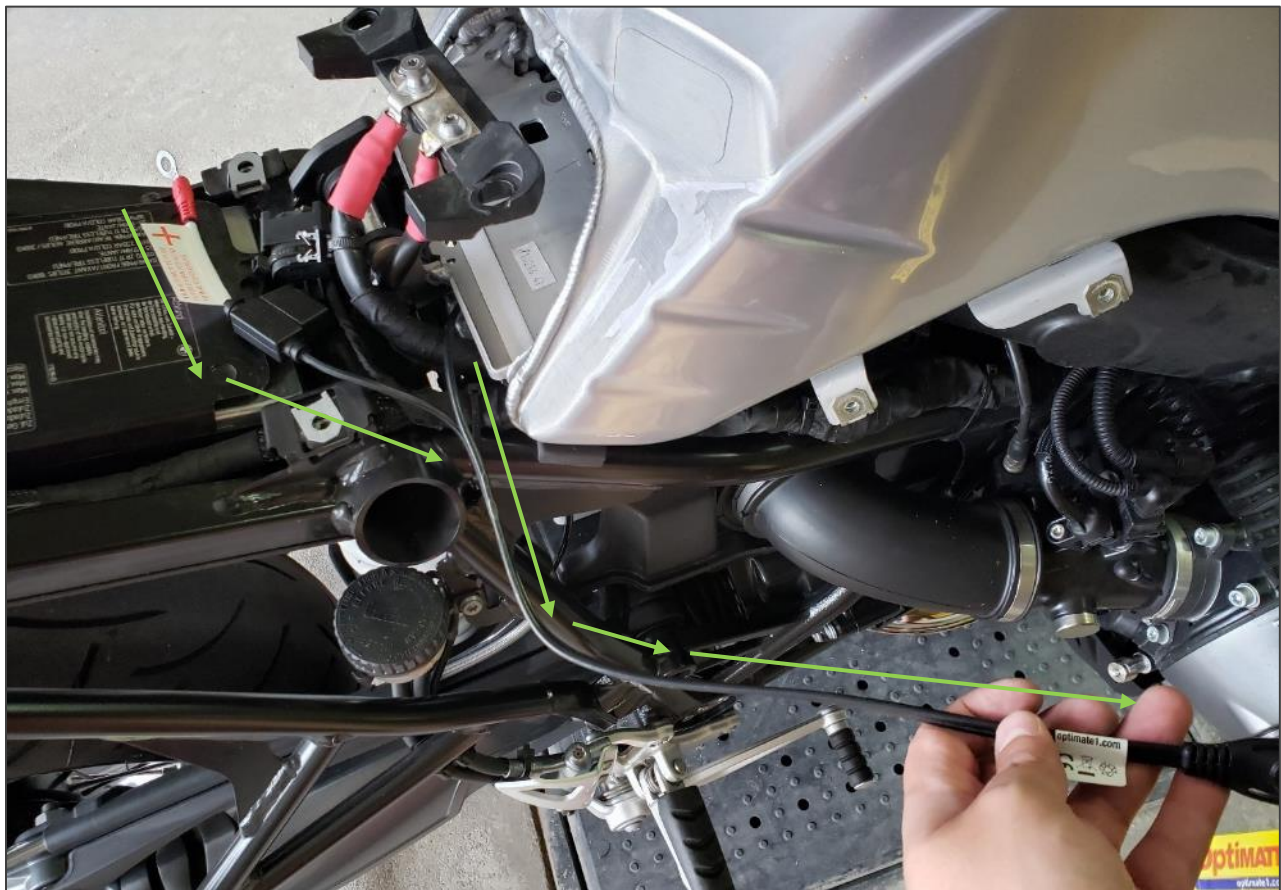
## Step #7: Negative Terminal

You will have access to the battery connection at the back side below the tank. With a 10mm wrench, unscrew the negative terminal and attach the negative eyelet of the *Optimate O-01* to the battery.



## Step #8: Battery Wire Routing

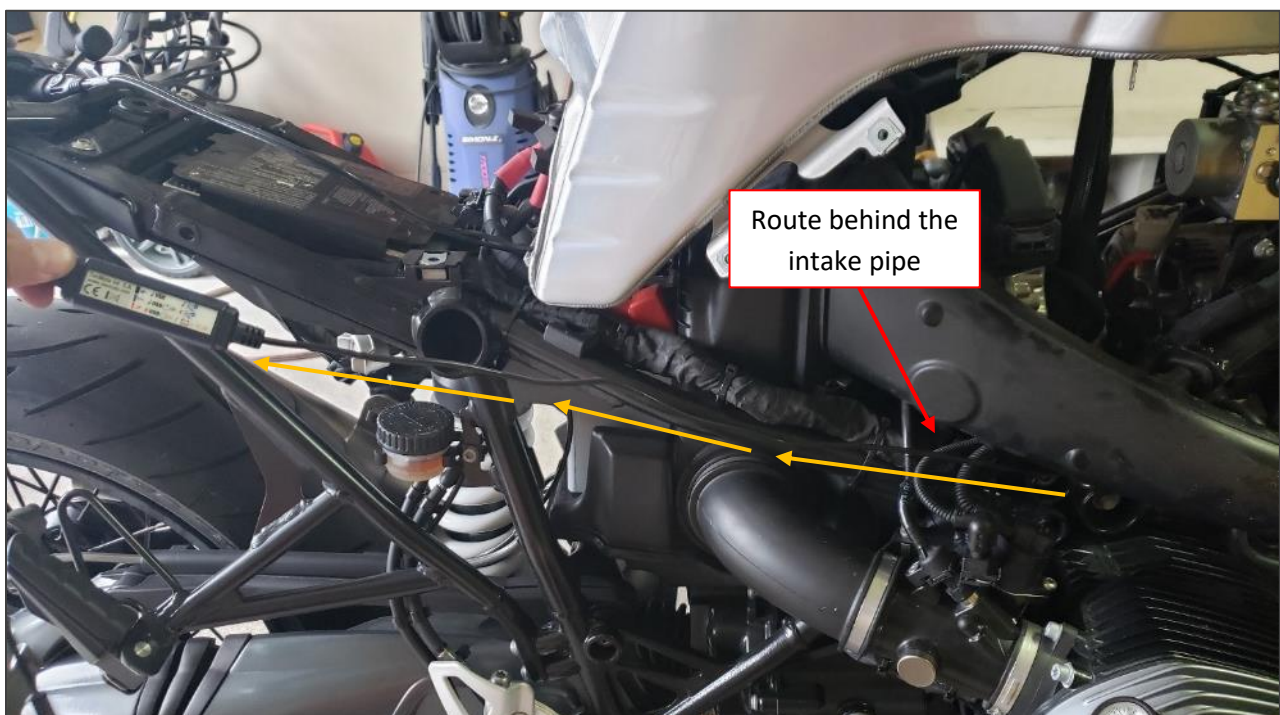
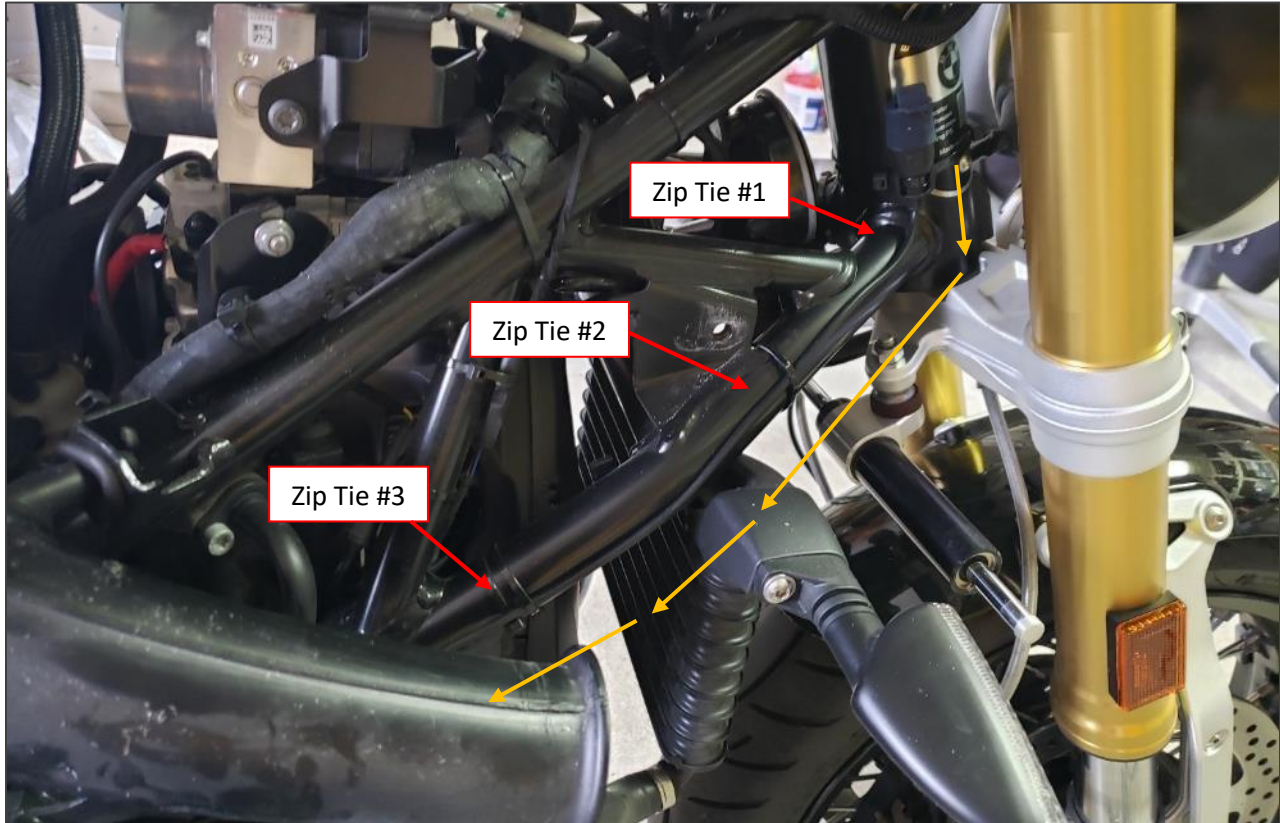
Route the cable underneath the tank to the seat area. Be sure that the wire cable will not be pinched when the tank is lowered for installation. At this stage, only the negative eyelet has been installed.



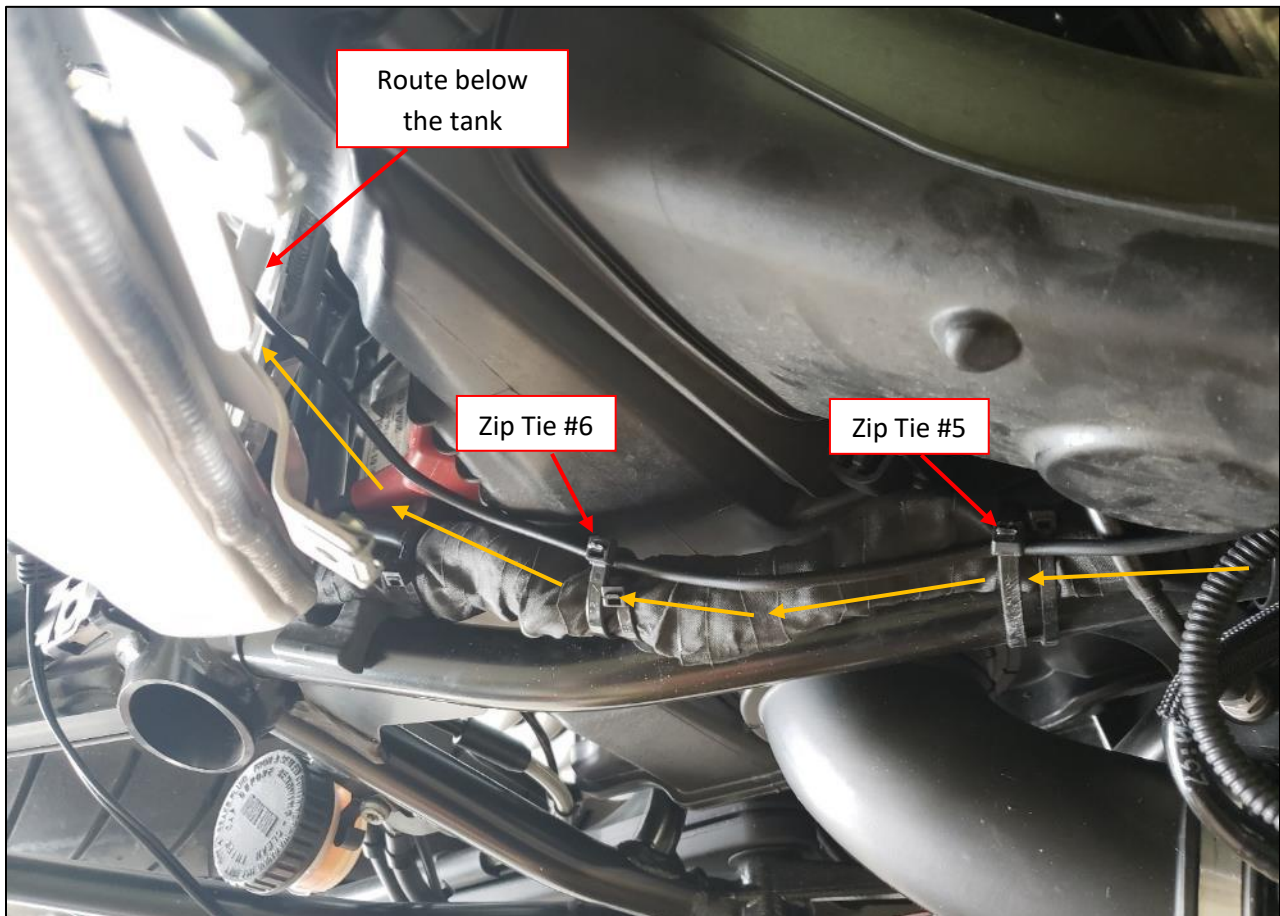
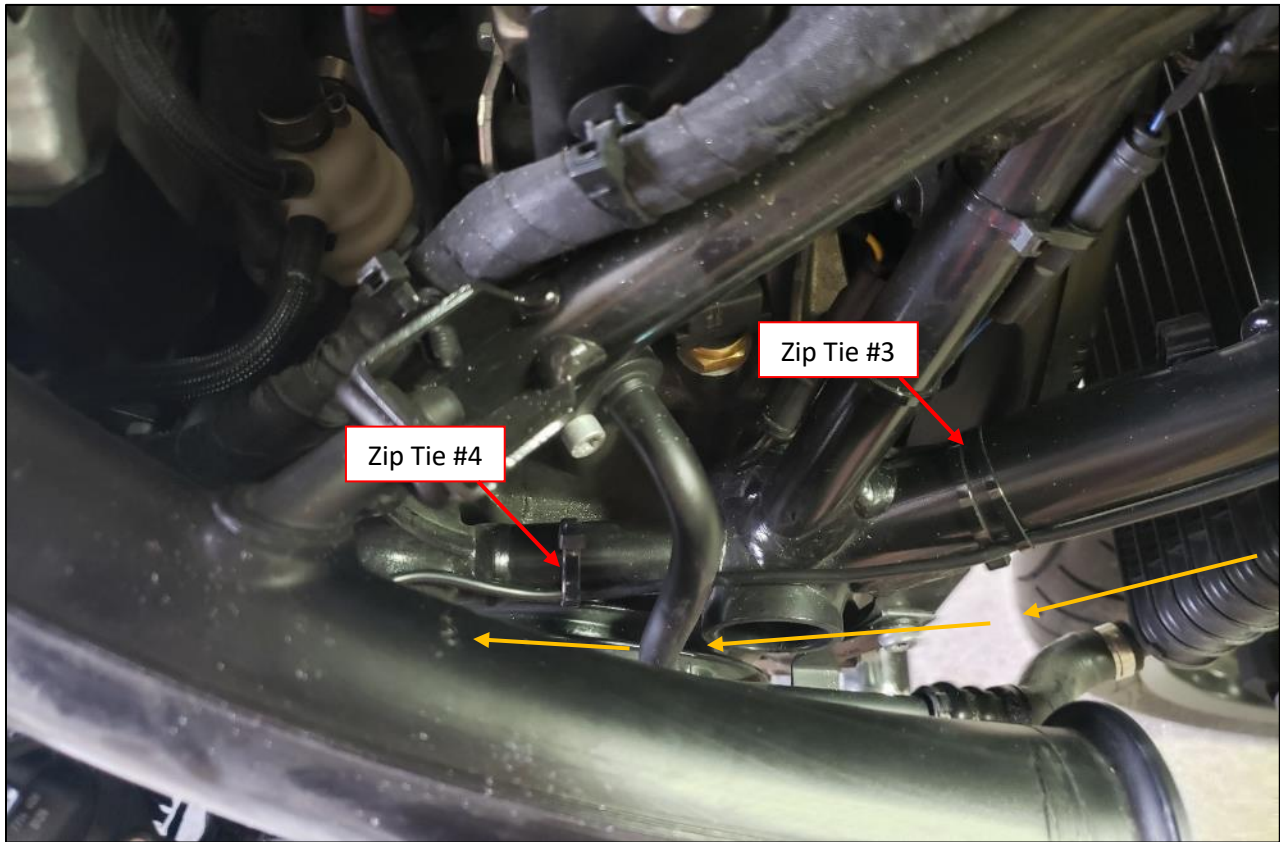


## Step #9: USB Wire Routing

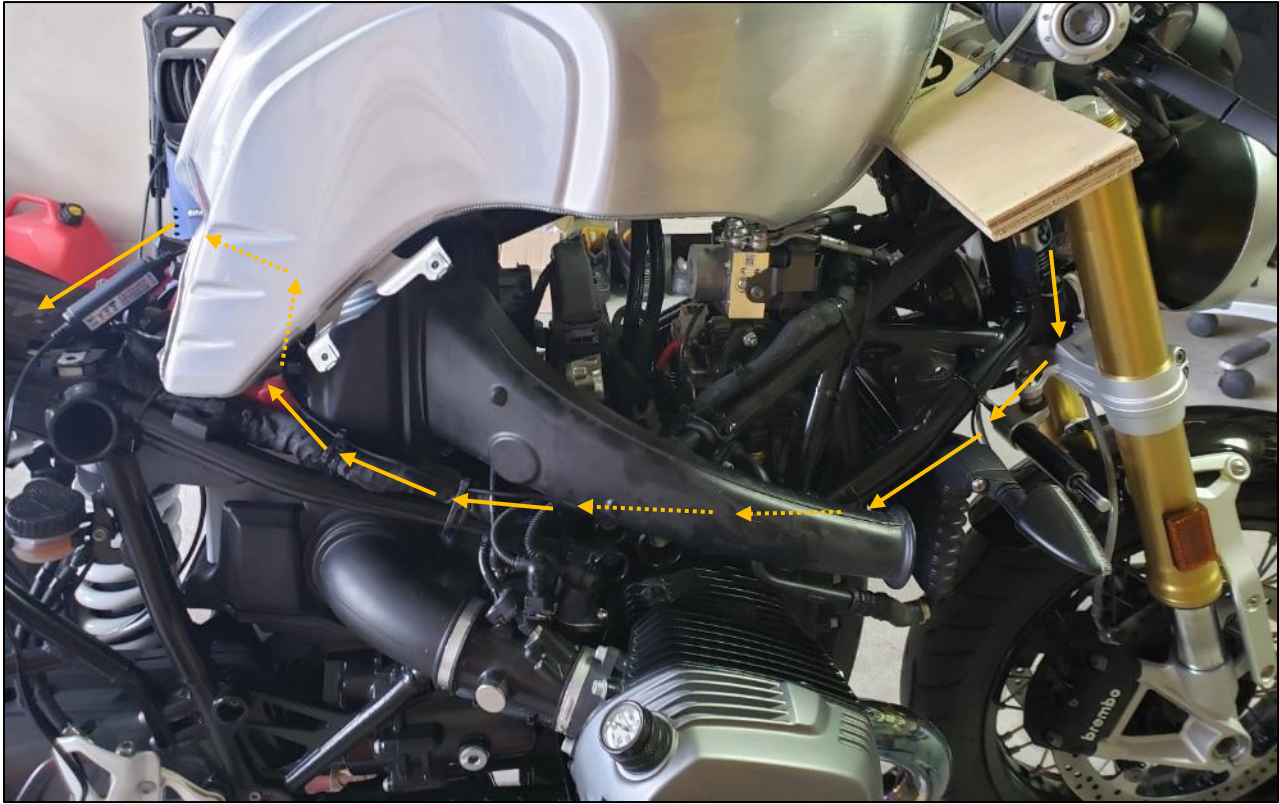
Attach the USB cable *Optimate O-108* to the steering column and to the frame by using zip ties. Please look at the pictures below for the location of the attachments. Route the USB wire to the back side (to the seat area) underneath the tank. Make sure that the cable will not be pinched once the tank is lowered.





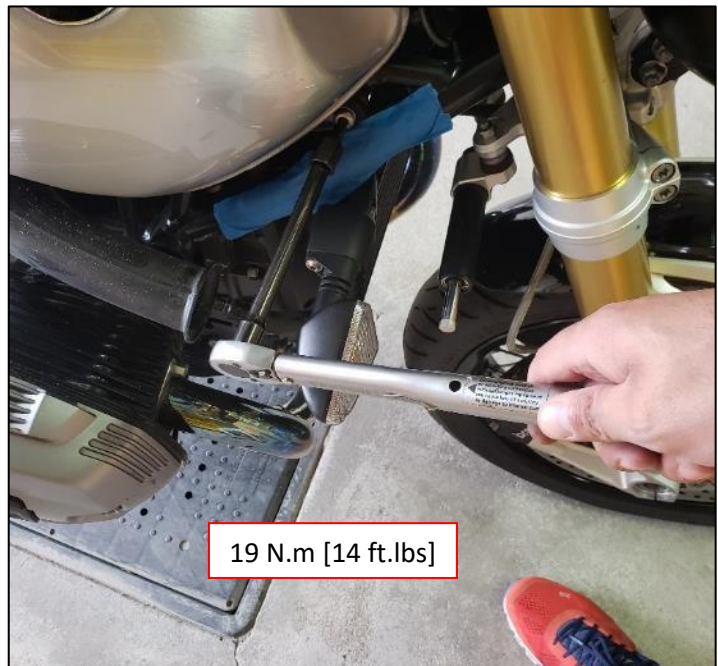






## Step #10: Tank Lowering

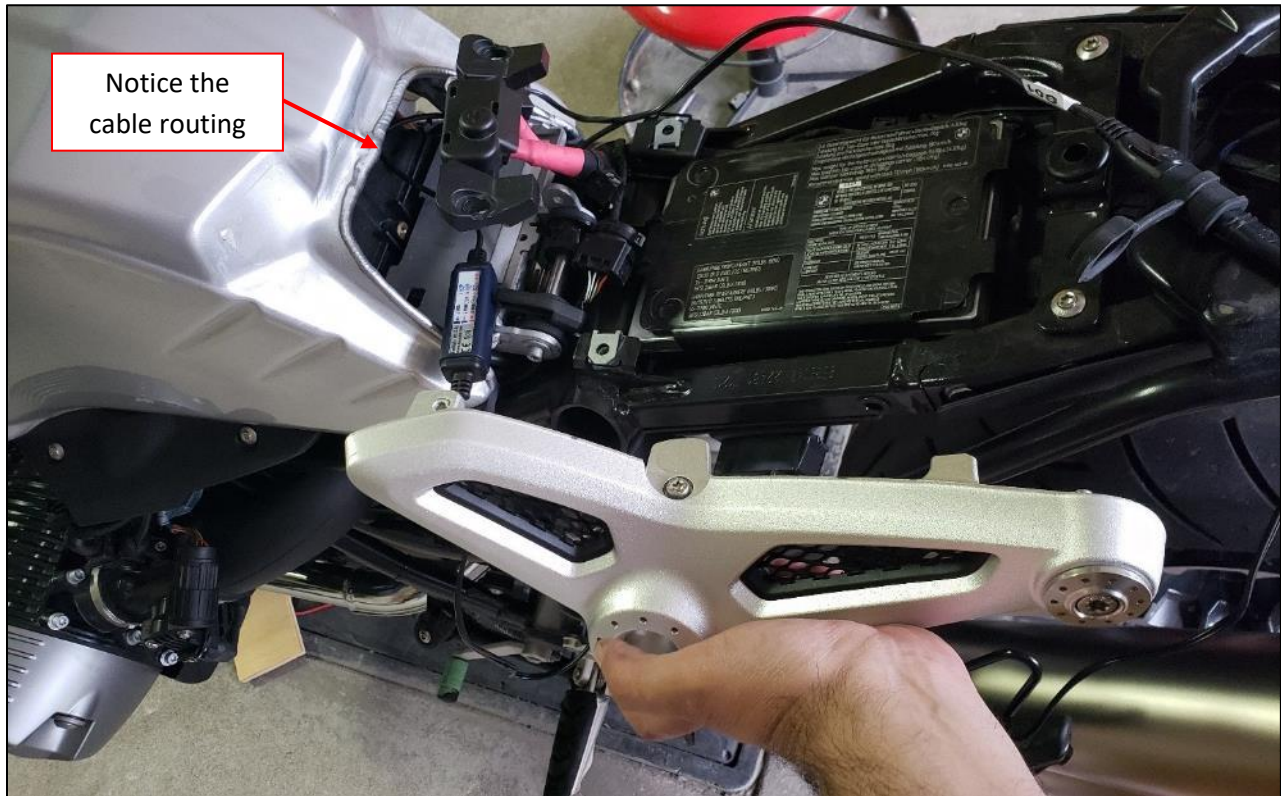
Remove the temporary wood support and lower the tank gently and look if there are any wire pinching. Adjust the wire routing if necessary. Install the two bolts and torque to 19 N.m [14 ft.lbs]. Remove the painter's tape.





## Step #11: Seat Bracket

Install the seat bracket, the upper bolts T30 are torqued to 8 N.m [70 in.lbs] and the side bolts T40 are torqued to 19 N.m [14 ft.lbs].





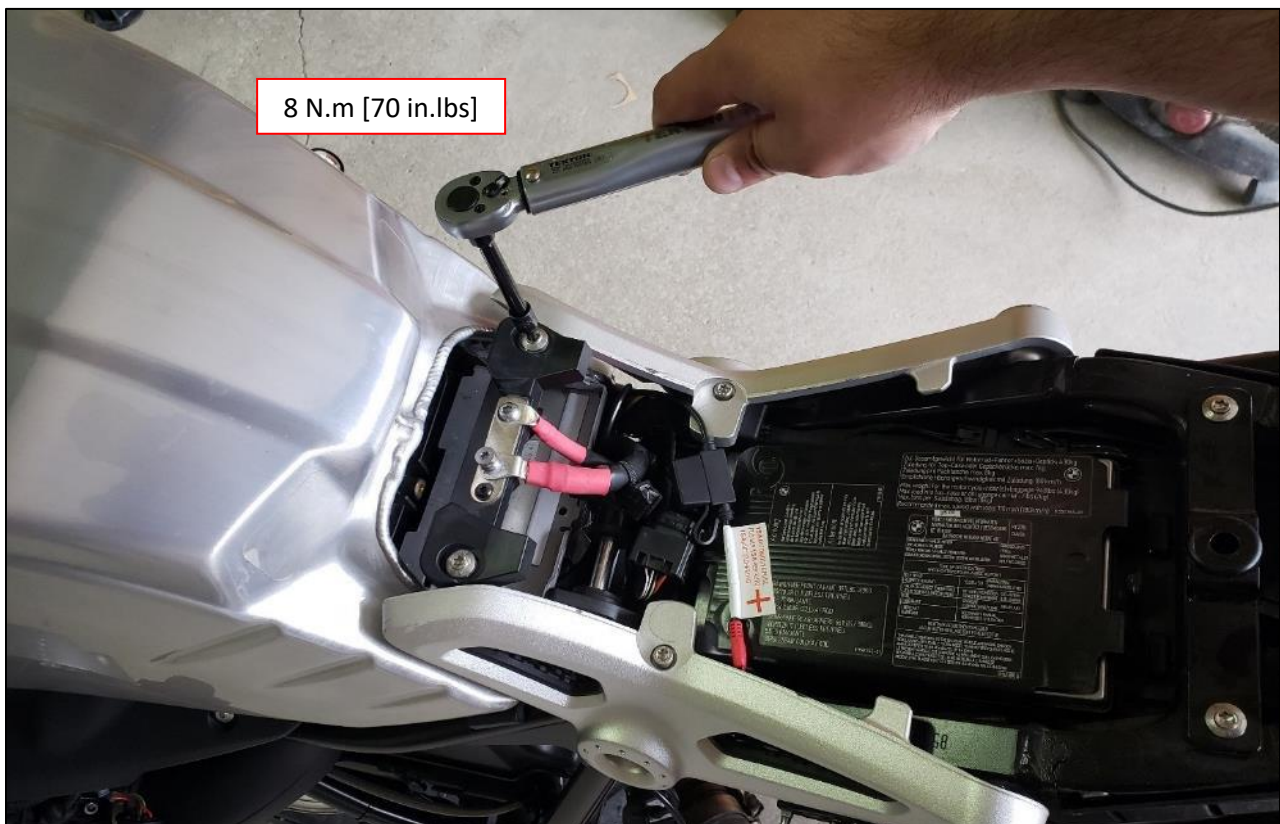
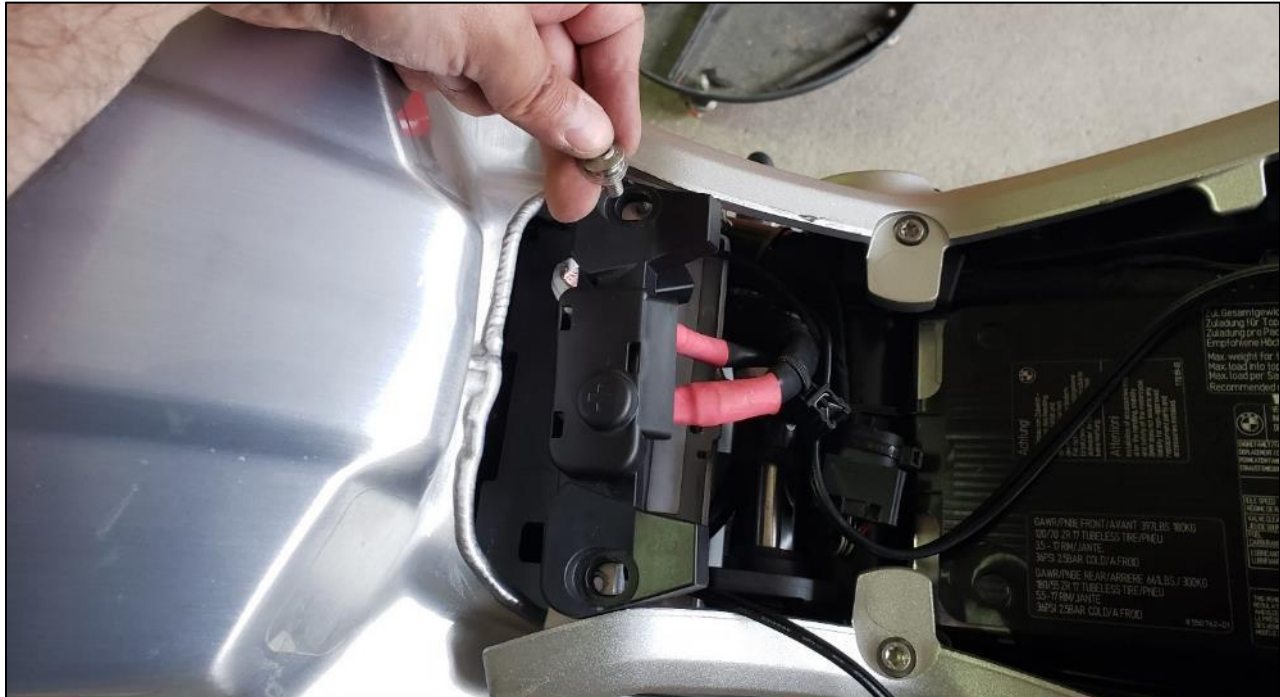
## Step #12: Optimate Module

Secure the module with a double-sided tape. Mount the module onto the battery firewall plate.



## Step #13: Battery Bracket

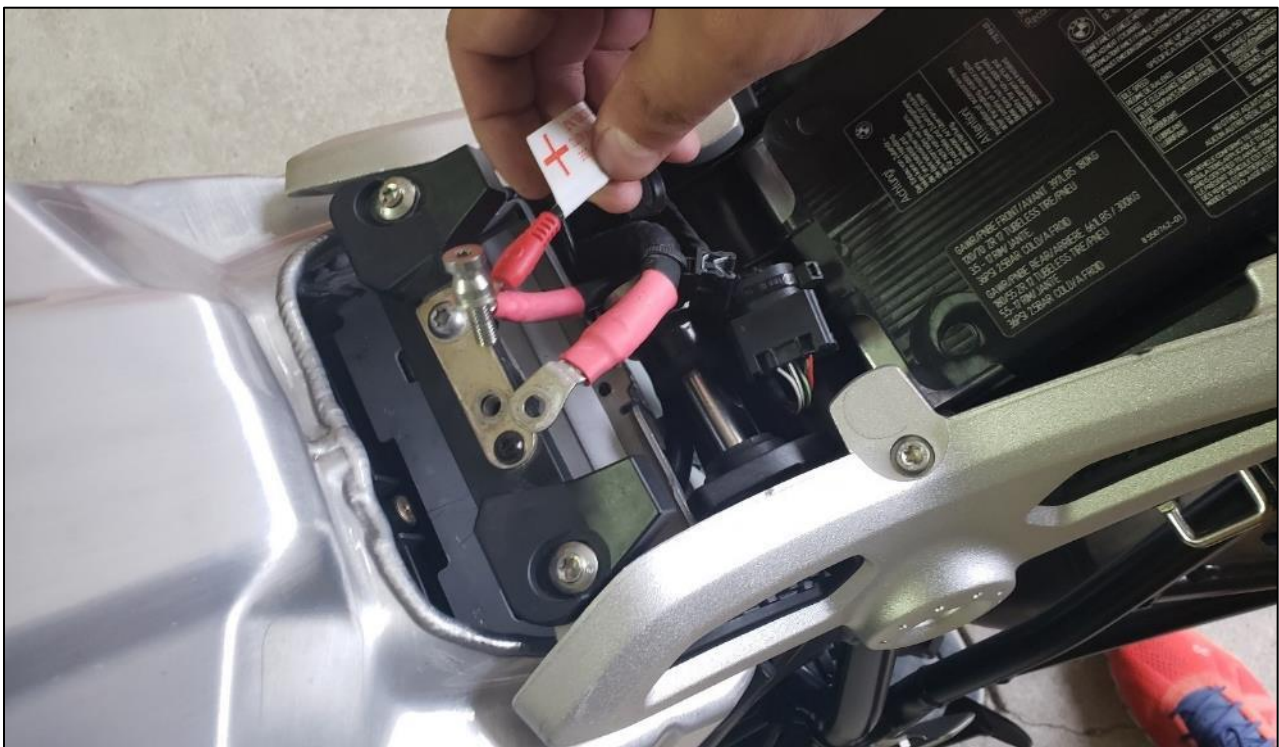
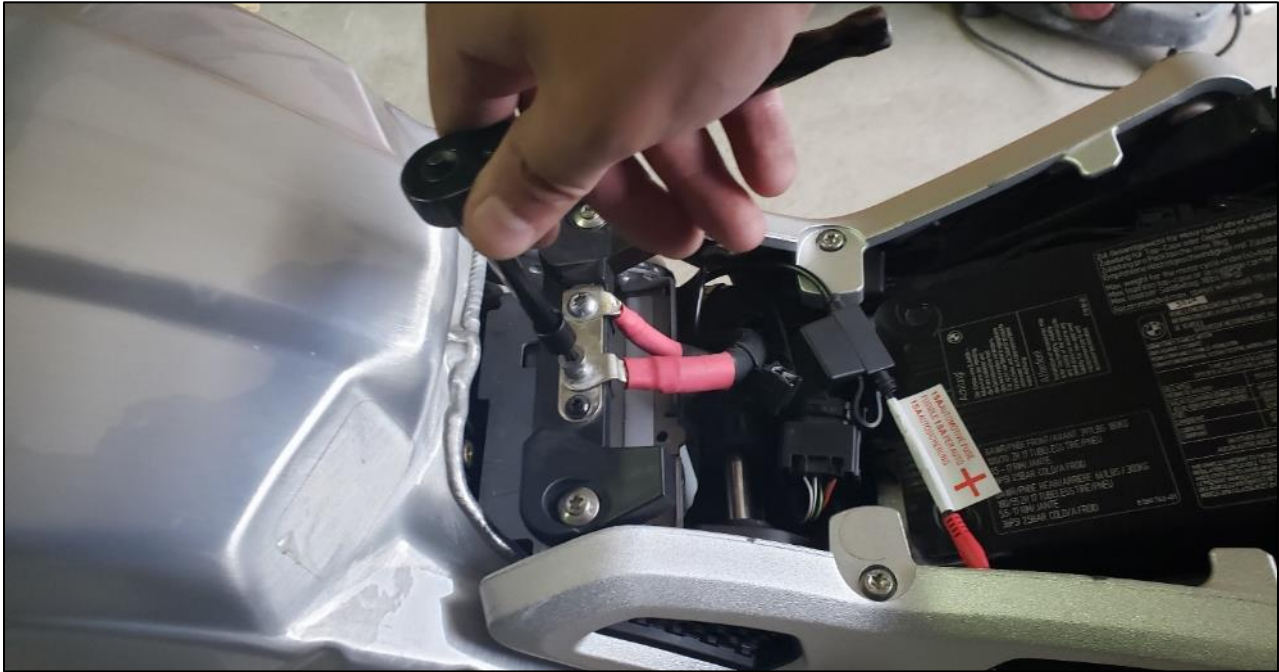
Install the battery bracket and torque the two bolts to 8 N.m [70 in.lbs].

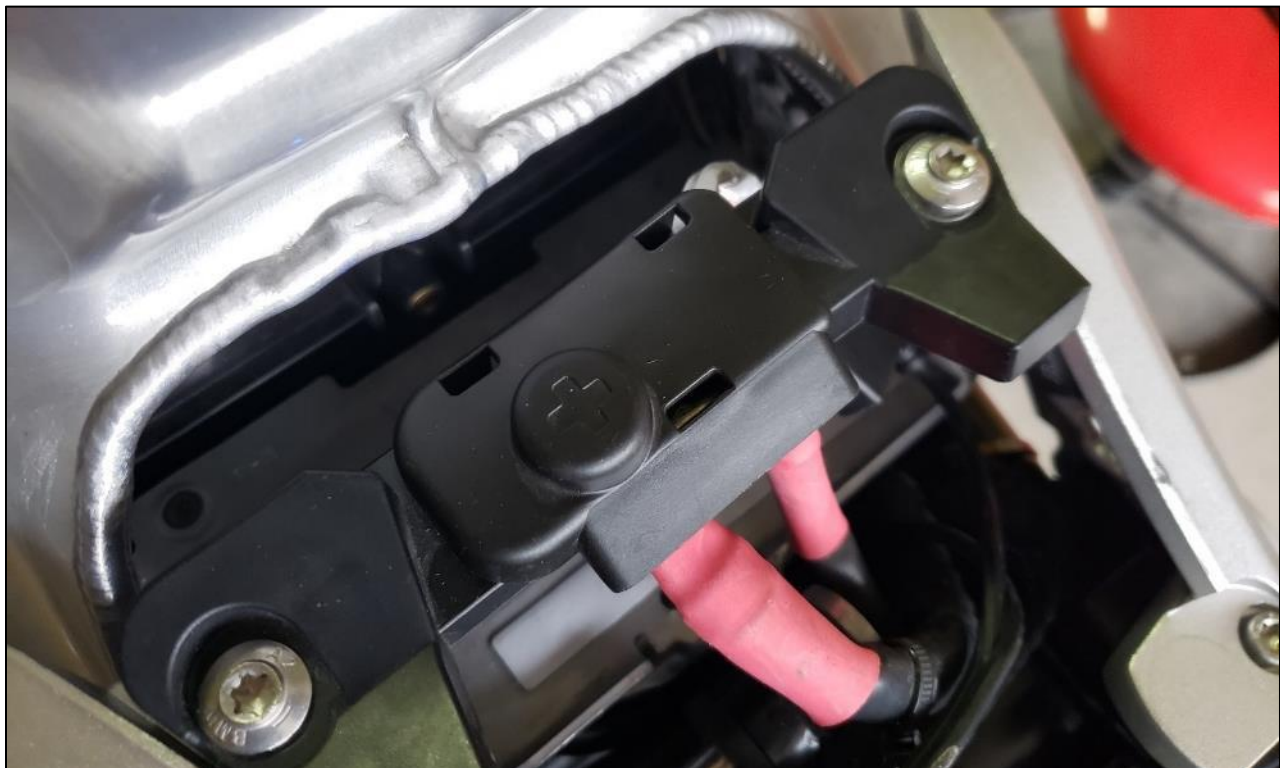
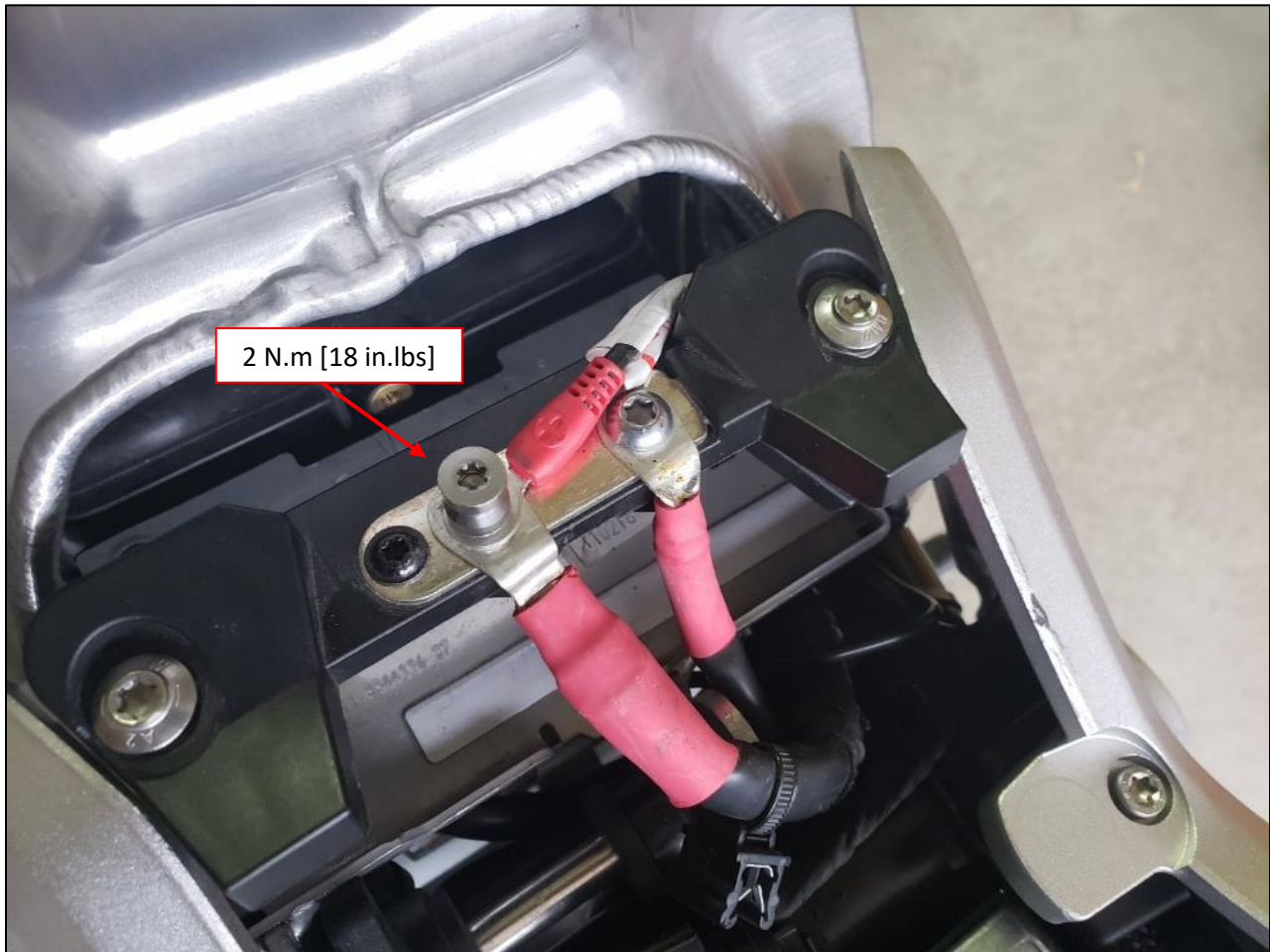




## Step #14: Positive Terminal

Unscrew the positive battery point and attach the positive eyelet of the *Optimate O-01*. Position the eyelet in a way which you can still install the safety cover cap. Once happy with the eyelet position, torque the battery point to 2 N.m [18 in.lbs].



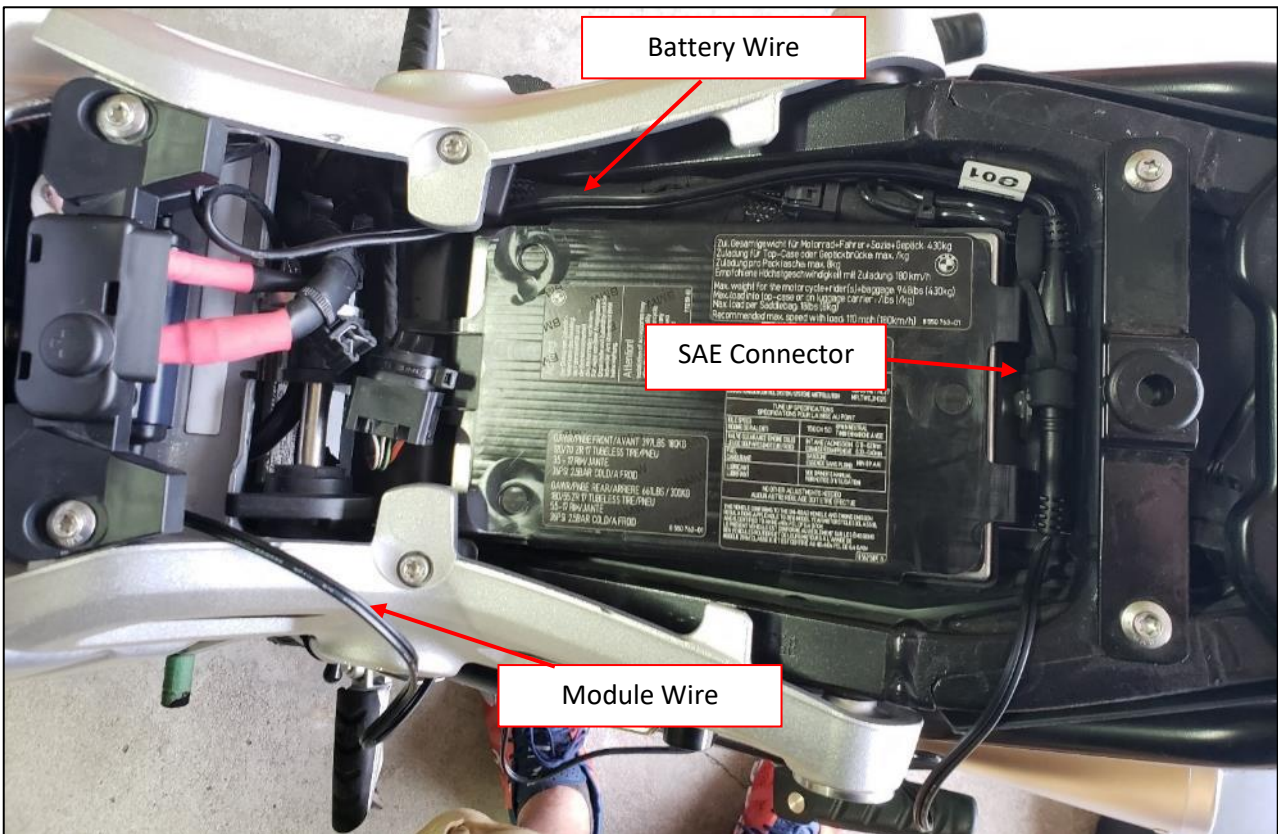
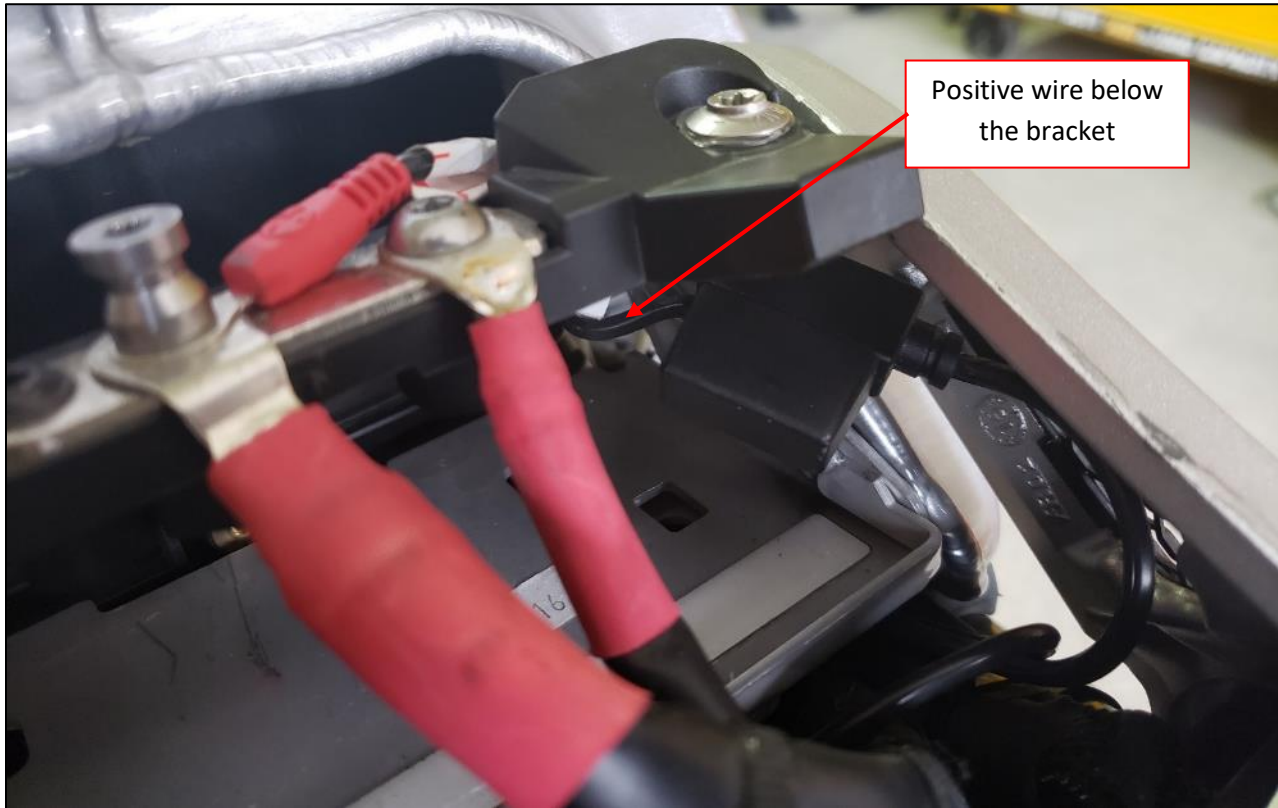


R Nine T (K21) - USB Charger & Battery Tender

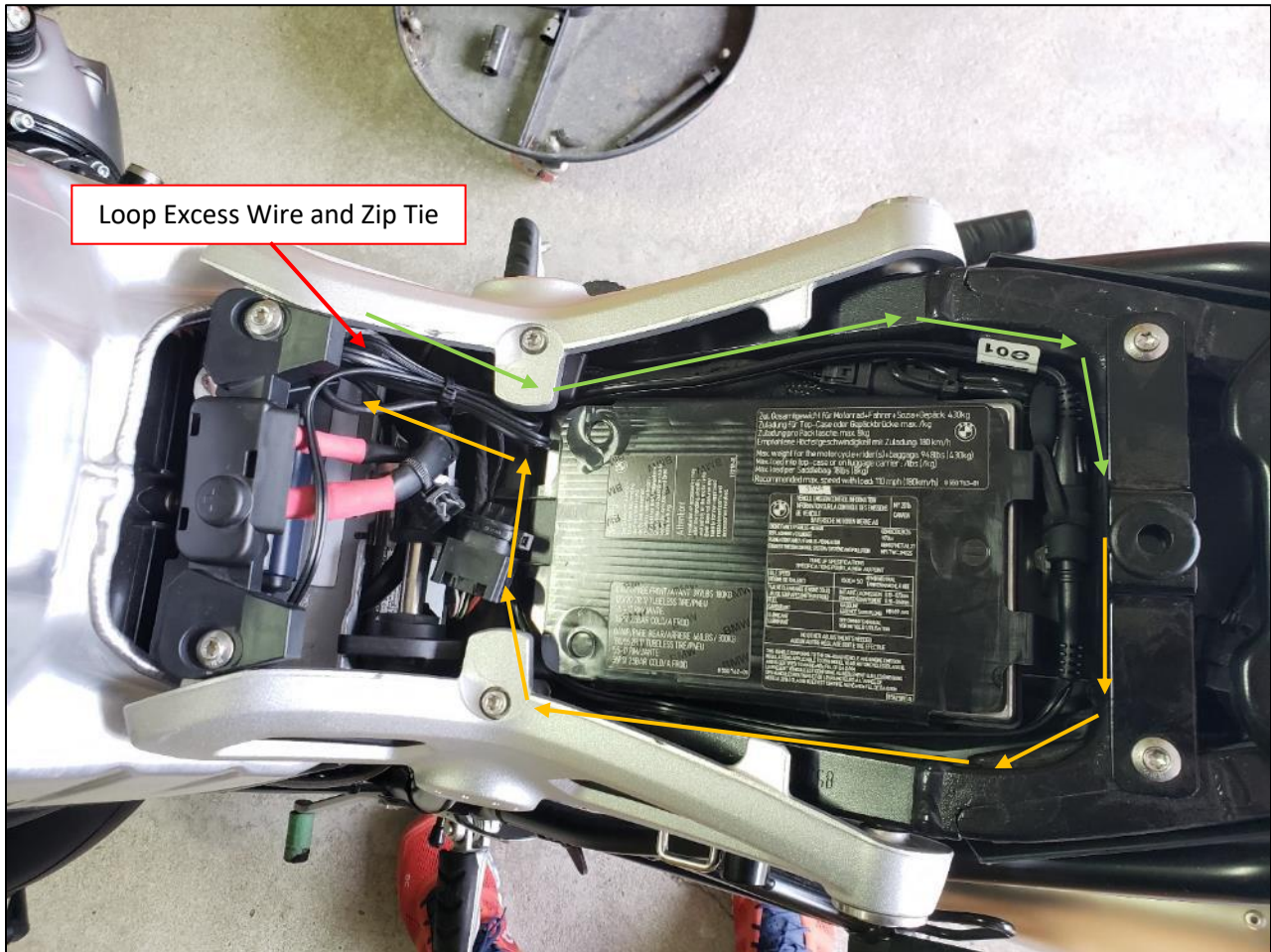


## Step #15: Final Wire Routing

The final wire routing should be followed as in the pictures below.







## Step #16: Seat Install

Install the seat and double check that there are no pinched wires. Adjust the routing if necessary.





## Step #17: Air Intake Cover

Install the air intake cover and tighten the bolts snug.

