

How to Install A Viper Winch On A CanAM Renegade

Created By: MotoAlliance



Figure 1

These instructions will guide you through the process of installing a Viper winch onto a CanAM Renegade. (Figure 1)

Tools:

- Ratchet Set
- Torx screw driver bits
- Multimeter
- Dremel or drill
- Cutoff device (Steel cable only)
- Electrical Tape



Figure 2

Step 1 - Remove seat, Gage Pod Cover and Gage Pod

- Seat Removal - Pull up on the lever located at the rear of the seat. Set seat aside. (Figure 2)



Figure 3

Step 1 - Remove seat, Gage Pod Cover and Gage Pod

- Gage Pod Cover Removal - There are three sets of tabs on either side of the gage pod cover that hold it to the ATV. Pull up on the tabs until they dislodge. (Figure 3 & 4).

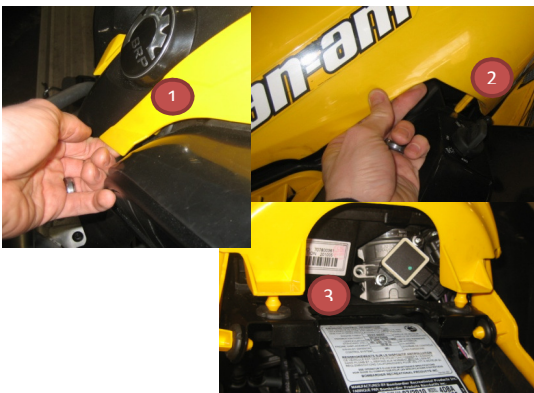


Figure 4

- Once all tabs are removed, set Gage Pod Cover aside

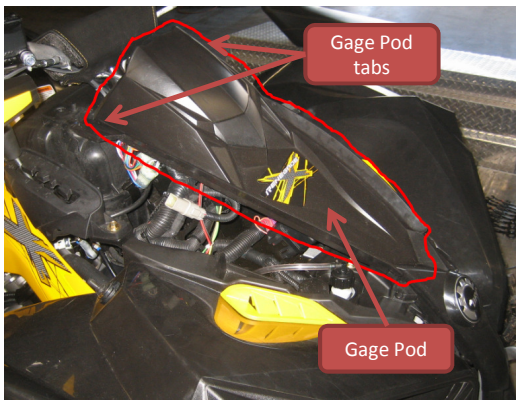


Figure 5

Step 1 - Remove seat, Gage Pod Cover and Gage Pod

- Gage Pod - Similar to the previous step, there is one set of tabs that hold the gage pod to the ATV. Pull up on these tabs and set the gage pod atop the ATV.

NOTE: There are wires connected to the gage pod, set it in such a way that these connections are not stressed. (Figure 5 & 6)

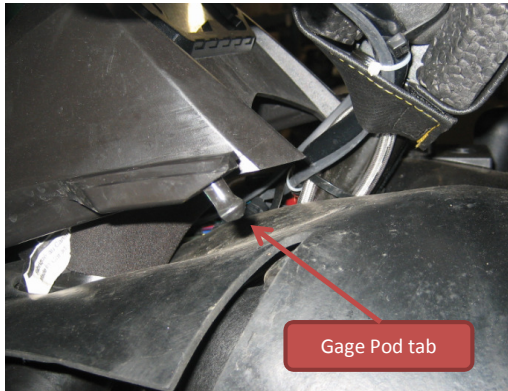


Figure 6

- After pulling up on the two tabs, located near the handle bars, the gage pod can be slid out from underneath the BRP bumper piece and set atop the ATV

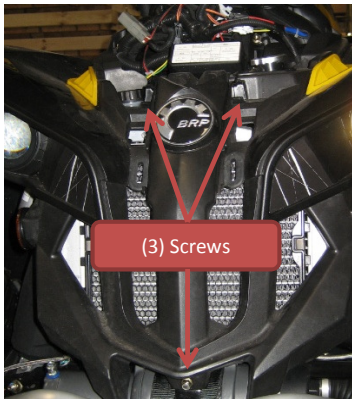


Figure 7

Step 2 - Remove BRP Bumper (Two Parts)

Part 1 -

- Remove the three (3) Torx 30 screws from the BRP Bumper
 - (2) located on either side of the BRP symbol
 - (1) located at the bottom of the BRP bumper and inline with the BRP symbol (Figure 7)

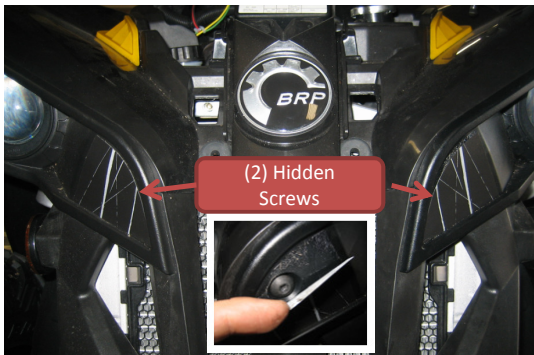


Figure 8

Part 2 -

- Remove the four (4) Torx 20 screws from the BRP Bumper
 - (2) located behind the plastic stickers near the head lights (Figure 8). Peel sticker away with care and remove bolts using a 10mm wrench to secure the nut on the reverse side. (Figure 8)
 - (2) located behind the front head lights



Figure 9

- The two remaining bolts located behind the head lights are difficult to find. They are located below and to the right of the head light case when viewing the lights from the viewpoint shown in Figure 9. Refer to Figure 10 for a close up view of the torx screw.

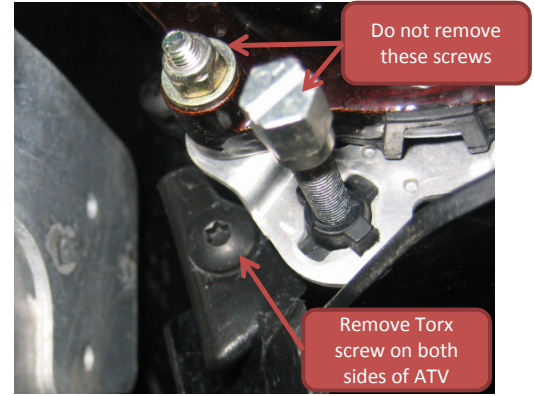


Figure 10

- Figure 10 shows the right side head light (opposite of the head light shown in Figure 9). There are two visible screws with the torx screw tucked behind them. Remove the torx screw.

- With all bolts removed, remove BRP bumper and set aside.

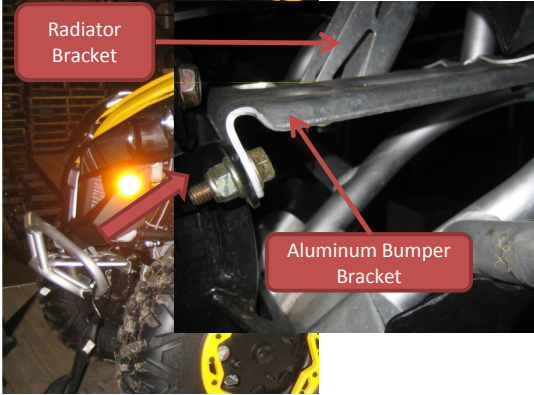


Figure 11

Step 3 - Remove aluminum bumper bracket and radiator bracket (Figure 11)

- Remove one (1) bolt that attaches radiator bracket to aluminum bumper
- Remove four (4) bolts that hold aluminum bumper bracket to bumper. (Figure 12 for bolt location)
 - (2) located at front of aluminum bumper
 - (2) located towards back up bumper bracket

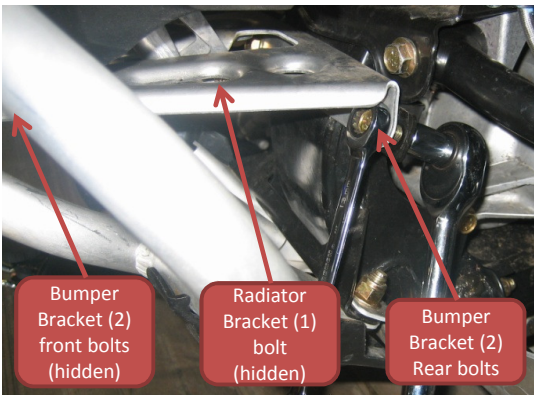


Figure 12

- With bolts removed, the aluminum bumper bracket will be trapped between the ATV and bumper. Let it sit there for now. Remove and set aside the black 'U' shaped bracket.

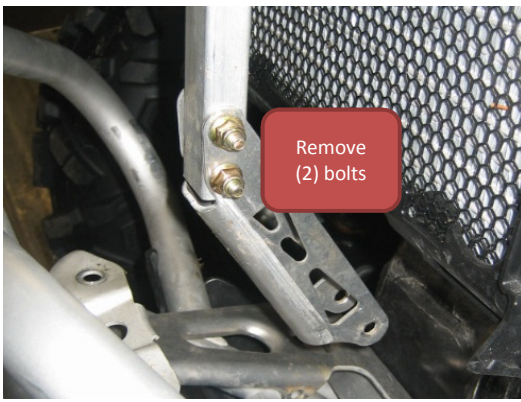


Figure 13

- Remove two additional bolts that attached the radiator bracket to the radiator support arm (Figure 13). Set aside bracket

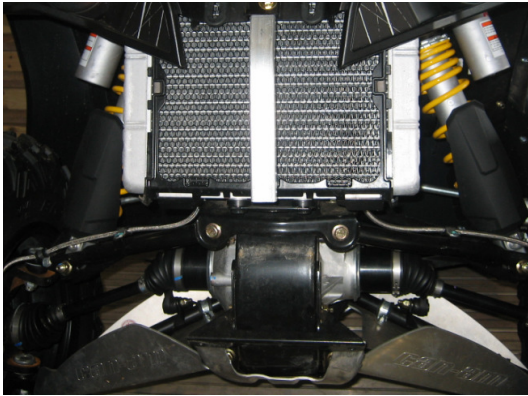


Figure 14

Step 4 - Remove Aluminum Bumper

- Remove any underbody armor and then remove the two (2) bolts that hold the aluminum bumper onto the ATV. Figure 14 shows all brackets and bumper removed.

- You are now ready to begin installing the Viper winch and reassembling your vehicle.

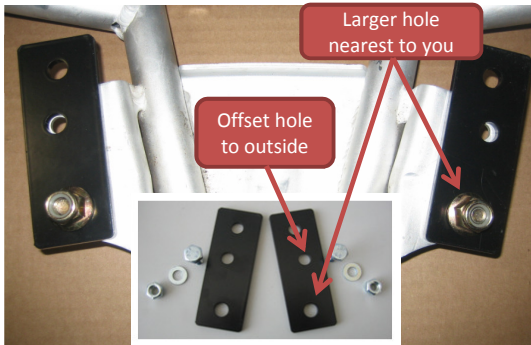


Figure 15

Step 5 - Attach the winch mount brackets & remount bumper

- Lay the aluminum bumper on a work surface with the mounting points towards you.

- Locate the two (2) flat brackets with three holes. Orient them as shown (Figure 15). Take note that the larger hole should be closest to you and the offset holes should be to the outside of the bumper.

- NOTE: In Figure 15, the factory hardware has been used to hold the two brackets to the bumper. These will later be removed.

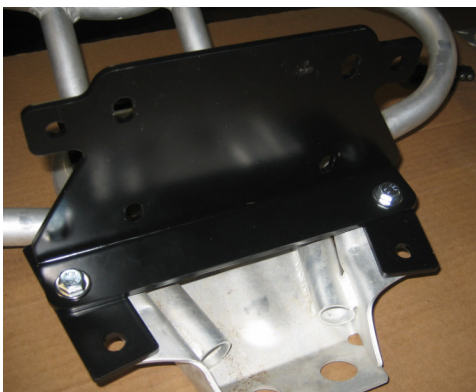


Figure 16

- Locate the winch mount bracket (Figure 16) and attach it using the hardware sent by MotoAlliance (seen in smaller photo of Figure 15). Do not tighten these bolts at this time.

- Remove the factory hardware that was shown in Figure 15 and is no longer shown in Figure 16.

- Remount the aluminum bumper with the attached brackets and mount plate. Use the factory hardware to mount the bumper. Do not tighten the factory bolts at this time.

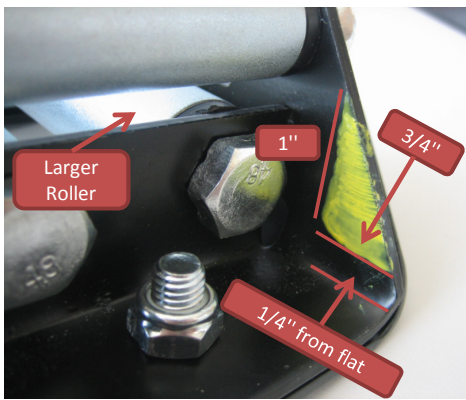


Figure 17

Step 6 - Applies ONLY to winches with STEEL CABLE - Modify roller fairlead

- Skip ahead to Step 10 for winches with synthetic cable
- The roller fairlead used with steel cable requires a slight modification to the sidewall to best fit the Renegade bumper. Figure 17 shows the general cutout guidelines for the roller fairlead. Using a metal saw or Dremel, cut out this area on both sides (See figure 18)

- Notch the side nearest to the larger roller

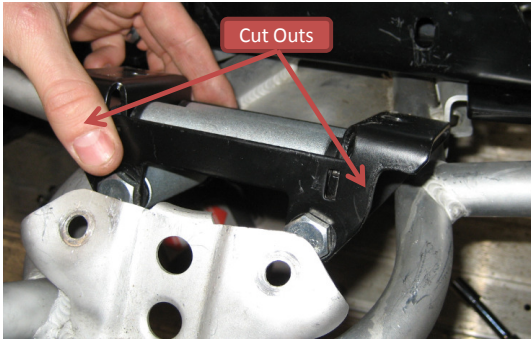


Figure 18

Step 7 - Install roller fairlead

- After making the notches in the roller fairlead side wall. Lay the roller fairlead onto the aluminum bumper such that the knock outs face upward as seen in Figure 18.

- Do not bolt the fairlead to the bumper at this time.

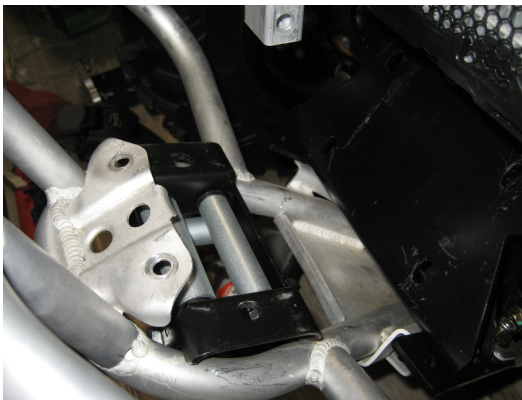


Figure 19

- Roller fairlead is at rest on the bumper.

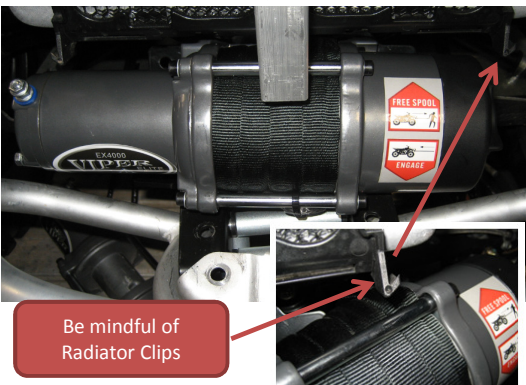


Figure 20

Step 8 - Install Viper Winch

- Position the Viper winch between the bumper and ATV with the mount holes facing the mounting bracket. Be mindful of the radiator clips shown in Figure 20 as you install the winch.

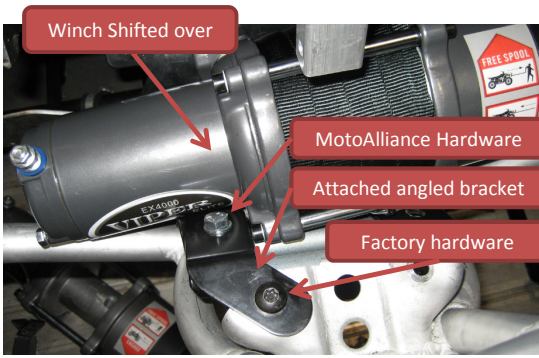


Figure 21

Step 9 - Secure the roller fairlead

- Locate the MotoAlliance angled brackets, bolts and nuts, and previously removed hardware that came from the aluminum bumper bracket.
- Shift the winch to one side as seen in Figure 21. Attach the angled bracket to the bumper using the factory hardware. Using the MotoAlliance hardware, attach the bracket to the roller fairlead.
- With one side attached, shift the winch to the other side and perform the same attachment procedure with the remaining angled bracket and hardware.

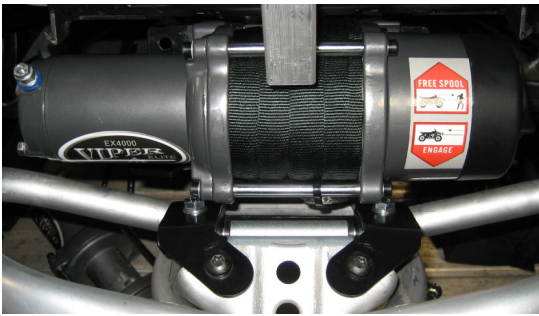


Figure 22

- Roller fairlead attached to bumper and winch recentered.

The next section applies only to winches with Synthetic cable, skip to Step 11

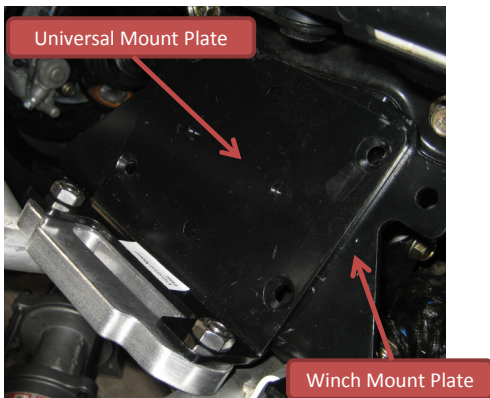


Figure 23

Step 10 - Only applies to winches with Synthetic Cable - Install fairlead and winch

- Mount the aluminum hawse fairlead to the universal mountplate included in your winch box. (Figure 23).
- Set the fairlead and mountplate onto the winch mount plate shown in (Figure 23)
- Slide winch between bumper and ATV to rest atop the universal mount plate (Figure 24). Again, be mindful of the plastic clips on the radiator

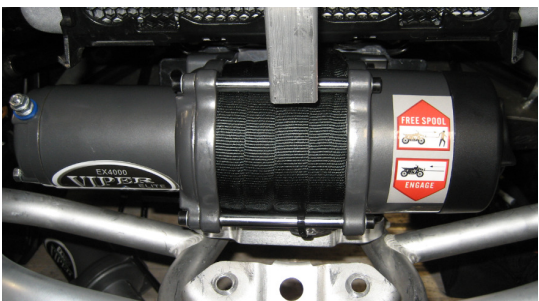


Figure 24

- Mount the winch to the universal mount plate using the bolts in the winch box. DO NOT tighten the winch bolts at this time

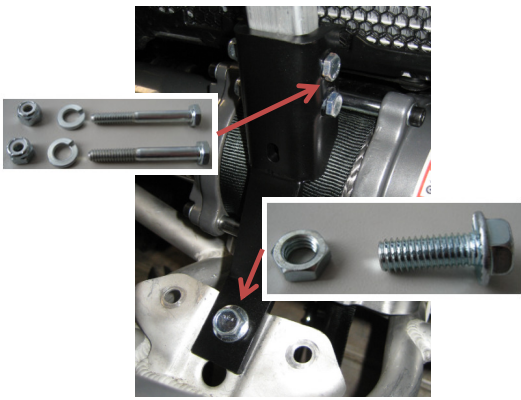


Figure 25

Step 11 - Install MotoAlliance Radiator Support Bracket

- Using the radiator support bracket and accompanying hardware, install the bracket as shown in Figure 25.

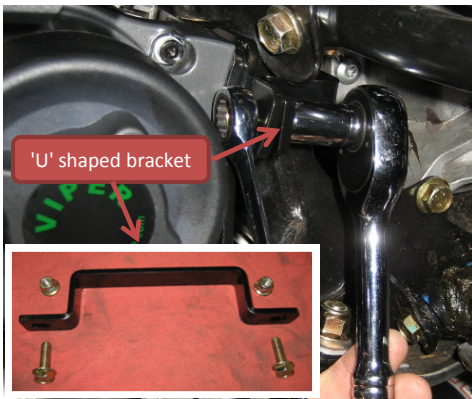


Figure 26

Step 12 - Install 'U' shaped bracket to backside of winch mount plate (Figure 26)

- Use the factory hardware from the old 'U' shaped bracket and install the new bracket to secure the mount plate. Do not tighten the bolts at this time.

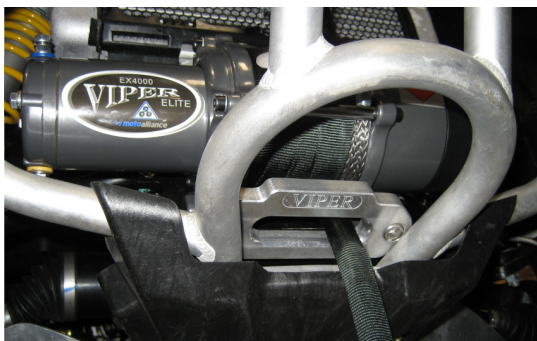


Figure 27

Step 13 - Tighten all hardware & feed cable through fairlead mount

- Tighten all hardware starting the four winch mounting bolts on the back of the mount plate. Push the winch up towards the radiator as far as it will go before tightenting the four bolts.
 - Tighten all remaining bolts.
 - Installed winch (Figure 27)



Figure 28

Step 14 - Reinstall the BRP Bumper

- Locate the bolt that was removed from the radiator bracket earlier in the install. This bolt will be fed from behind the new radiator support bracket prior to installing the BRP Bumper (Figure 28). NOTE: This bolt must be fed in prior to installing the bumper.



Figure 29

- Reinstall the BRP Bumper, being mindful not to knock the loose bolt in the radiator bracket out of its hole. Reinstall all bolts in reverse order.

Step 15 - Wire winch according the documentation included with winch kit. The following instructions are specific to the vehicle shown and may differ from vehicle to vehicle.

GENERAL WIRING PRINCIPALS

- Read and adhere to all factory documentation prior to beginning and wiring projects
- When running wires, avoid running wires close to moving parts and keep as much distance from the exhaust pipes as possible (ie. run wires on other side of vehicle)
- In general, find the route that the manufacturer runs wires and follow them.
- Incorrectly wiring your winch can result in severe damage or injury.

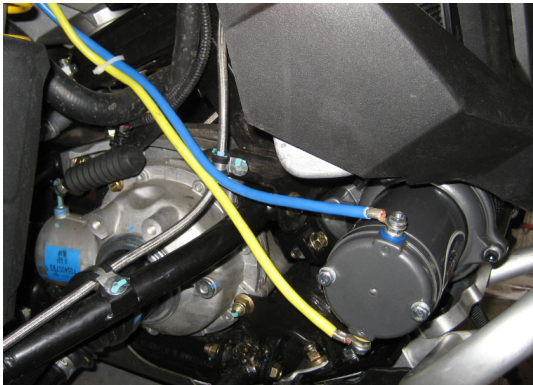


Figure 30

Step 16 - Attach cables to winch

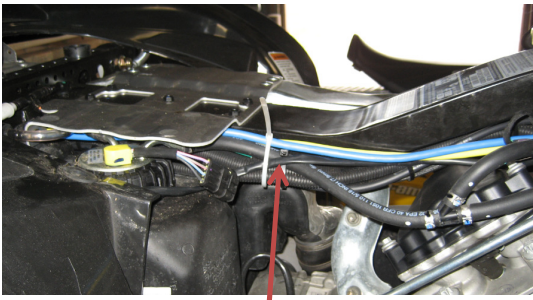
- After reading through ALL wiring instructions AND adhering to their instruction, wire cables following the color coded scheme. Keep wires tightly bound together, away from moving parts and anything that will become hot (primarily the exhaust system) (Figure 30).



Figure 31

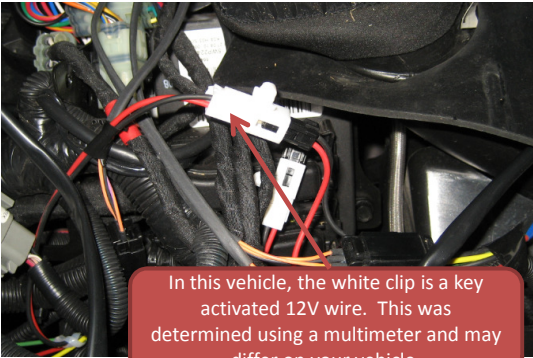
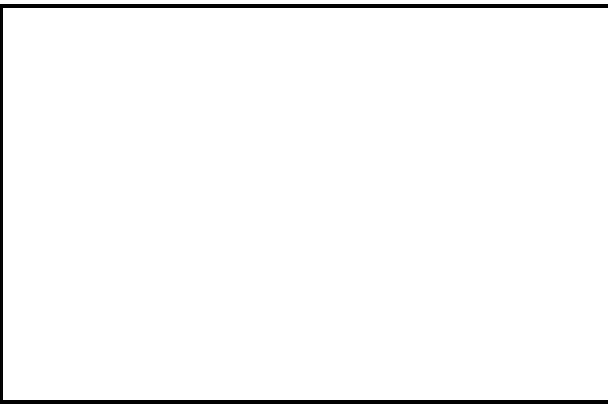
- Follow the original manufacturers wiring to route your cables to the rear of the vehicle where the contactor and battery are located. (Figure 31 & 32)

- The side panels of the ATV pop off in a similar fashion to the panels in the first few steps.



Note wires following manufacturers wiring route.

Figure 32

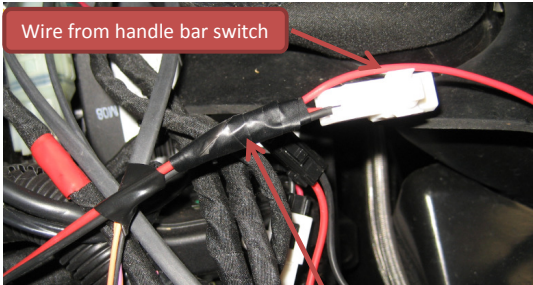


In this vehicle, the white clip is a key activated 12V wire. This was determined using a multimeter and may differ on your vehicle.

Figure 33

Step 17 - Mount Handle Bar Switch and connect key power wire

- You will notice a red wire at the end of the handle bar switch. This wire is a mandatory safety feature and eliminates the use of the winch without the ATV key being in the ON position. (ie. You won't be able to run your winch without the key ON)
- Mount handle bar switch in a desirable place where it will not be accidentally hit.
- Run handle bar switch wires and red wire neatly along the same path as the manufacturers wires prior to installing the red wire.



Wire from handle bar switch

Several layers of electrical tape were used to seal the soldered joint together.

Figure 34

- Ensure that the wire chosen to power the red safety wire is indeed a **switched power wire**. Attach the two terminals of a multimeter to the two wires that are key activated. When the key is off there should be zero (0) volts and when the key is activated there should be approximately twelve (12) volts.
- Once a power wire that is activated when the key is in the ON has been verified attach the red handle bar switch wire. It is best to solder the red wire onto the switched power line and then tightly wind it with electrical tape (Figure 33 & 34)
- Once the key activated power cable has been wired correctly according to the manufacturers instructions, run the cable terminal along the manufacturers wiring route back to the contactor. Secure the cable with zip-ties as needed.

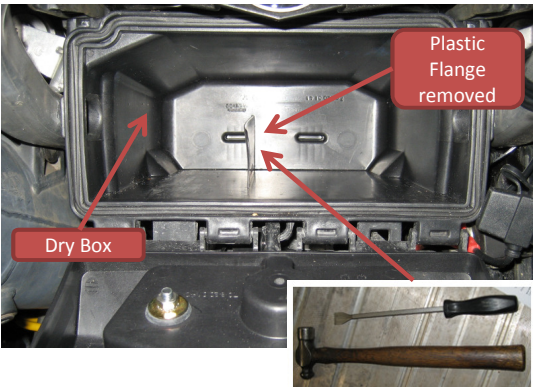


Figure 35

Step 18 - Mount Contactor

- Open the built in dry box (Figure 35)
- For simpler contactor installation the plastic divider flange was removed using a hammer and chisel

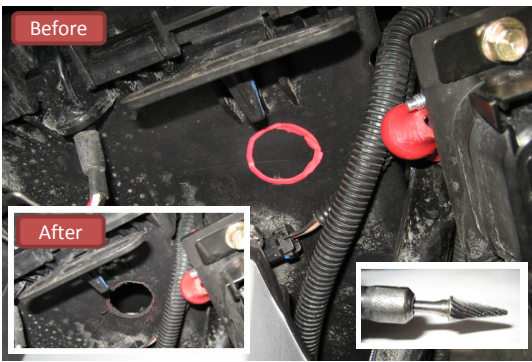


Figure 36

- Drill hole in the bottom of the dry box to run cables to the contactor. The hole should be big enough to run the largest diameter cable - in this case the handle bar switch cable is the biggest piece. See (Figure 36) for before and after pictures as well as the dremel bit used - any cutting bit will do.



Figure 37

- Run all cables through the newly drilled hole and connect them to the contactor using the color coded scheme. Be mindful of the final position and direction of the contactor when determining the order in which you attach each wire. Some trial and error may be needed before getting this step right. See (Figure 37) for wired contactor.

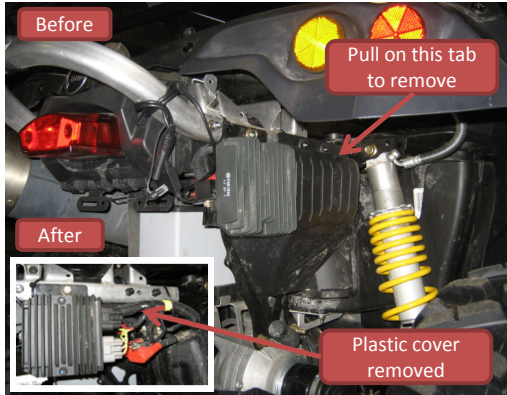


Figure 38

Step 19 - Connect power to the contactor

- Remove the black plastic cover shown in (Figure 38)

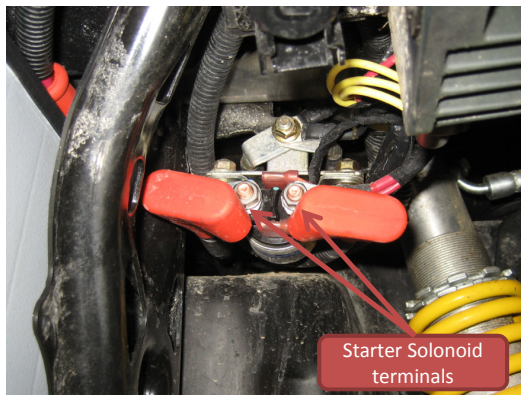
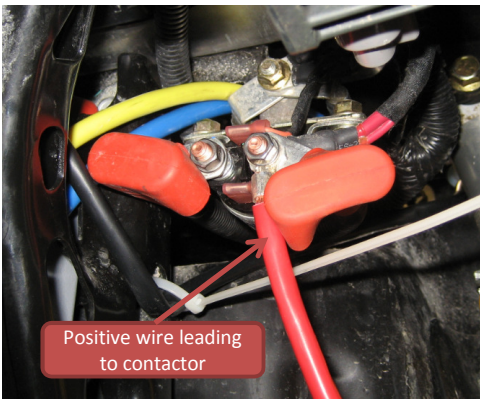


Figure 39

- At this point the winch should be wired using the color coded wiring scheme, the handle bar switch is mounted and kill switch is correctly wired into a switched power line, all wires are neatly run through the vehicle following the manufactures wiring routes and not touching hot or moving parts, the contactor is wired and all that remains to do electrically is to connect the red and black cables that come from the contactor.

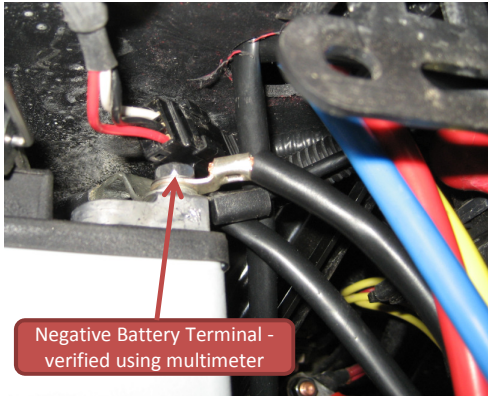
- With the key off, connect the red wire to the positive side of the vehicles starter solenoid. Verify this using a multimeter, connect the negative side of the multimeter to the negative battery terminal and the positive wire to both sides of the starter solenoid, whichever has a positive 12V is the side to wire the positive cable to.



Positive wire leading to contactor

Figure 40

- In this case, the positive 12V side of the starter solenoid was on the right side, however, this may not always be true so verify prior to wiring.



Negative Battery Terminal - verified using multimeter

Figure 41

- Connect the negative (black) wire from the contactor to the negative side of the battery after verifying that it is indeed the negative terminal. (Figure 41)

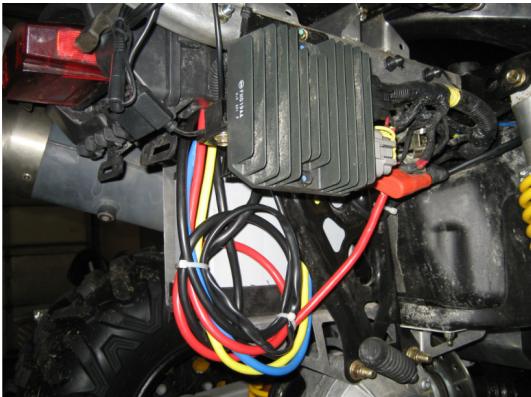


Figure 41

- Zip tie all loose cables and ensure that they will not rub against any moving parts or the exhaust system. (Figure 41)
- Walk around the vehicle one more time ensuring that all bolts are tightened, all electrical wires are installed per the manufacturers wiring diagrams and all terminal nuts are tightened down.
- Insert the key and turn it to the on position (WITHOUT STARTING THE VEHICLE), listen for any abnormal sounds and again walk around the vehicle to ensure nothing is out of the ordinary.
- With the key on and vehicle running, run the cable in and out, verifying the correct operation of the winch.



Figure 42

Step 20 - Reinstall plastic body pieces, plastic covers, and seat in reverse order. Congratulations! Enjoy your Viper winch!