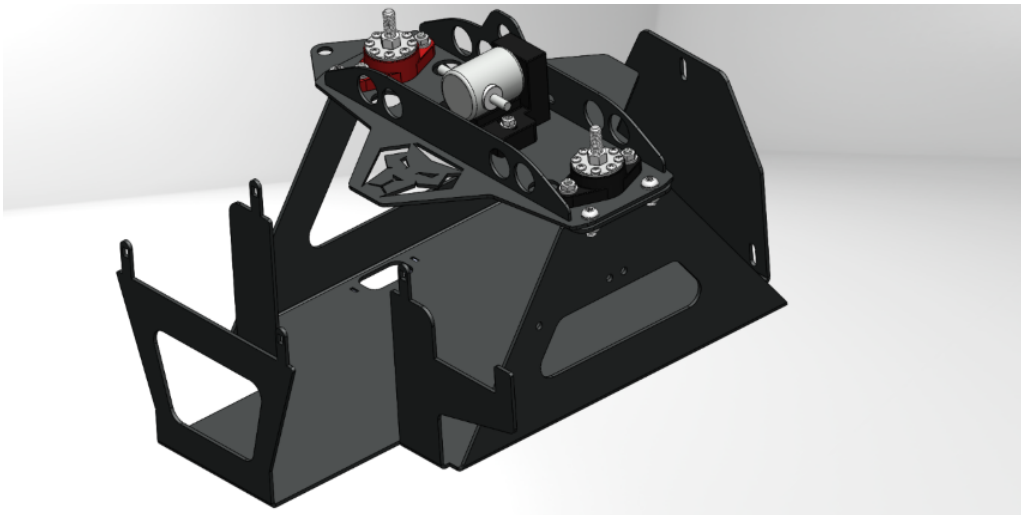


Genesis Offroad



JK Dual Battery System

131-JKDBK



Installation Guide

For 2012+ JK

Revised 5/24/13

Genesis Offroad

Before you Begin

Please read through these instructions thoroughly. To avoid mistakes and lost time, follow the sequence shown. Leave the battery posts covered during installation to avoid accidentally shorting out the batteries.

Parts List	Qty	Tools Needed
Battery Tray	1	Flat head screwdriver
Top Plate	1	10mm socket
Smart Isolator	1	13mm socket
High Amp Bus Bar	1	Ratchet with extension
Dust Cover	1	Cut Off Wheel or similar
Wiring Harness	1	Scissors or Tin Snips
Stainless Bolts	4	
Stainless Nuts	4	
5/16" Fuel-safe Vent Hose	1	
1/4" Fuel-safe Vent Host	1	
Zip Ties	2	

Genesis Offroad

Table of Contents

JK Dual Battery System.....	1
Installation Guide.....	1
Before you Begin.....	2
Remove Factory Components.....	4
A. Remove Battery.....	4
C. Remove Evap Solenoid.....	6
D. Remove Factory Fuse/Relay Box.....	8
E. Remove Wire Harness Clips.....	12
F. Power Steering Reservoir.....	13
G. Remove Factory Battery Tray.....	14
H. Evap Solenoid Hoses.....	15
I. Air Box Mounts.....	16
Install New Components.....	17
A. Install Genesis Offroad Battery Tray.....	17
B. Air Box.....	20
C. Evap Solonoid.....	21
D. Fuse/Relay Box.....	21
E. Batteries.....	22
F. Top Plate.....	23
Final Notes.....	25

Genesis Offroad

Remove Factory Components



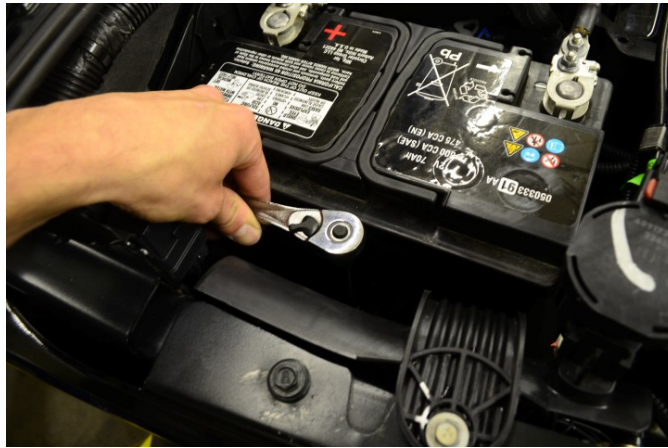
A. Remove Battery

1. Disconnect NEGATIVE battery cable first, then disconnect positive cable. Secure cables out of the way.



Genesis Offroad

2. Use a 10mm socket with a long extension to remove the factory battery hold down bracket located between the battery and the fender.



3. Remove the factory battery and set out of the way.

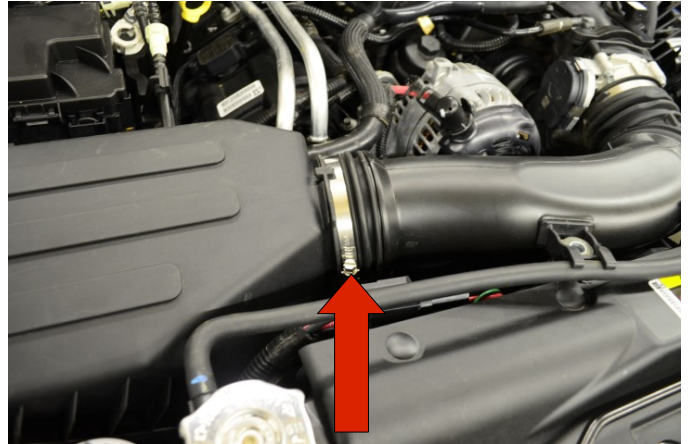
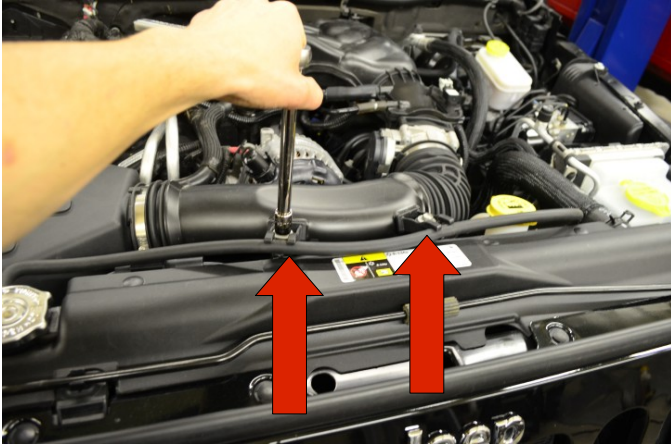
B. Remove Factory Air Box

1. Lift and remove the engine cover piece

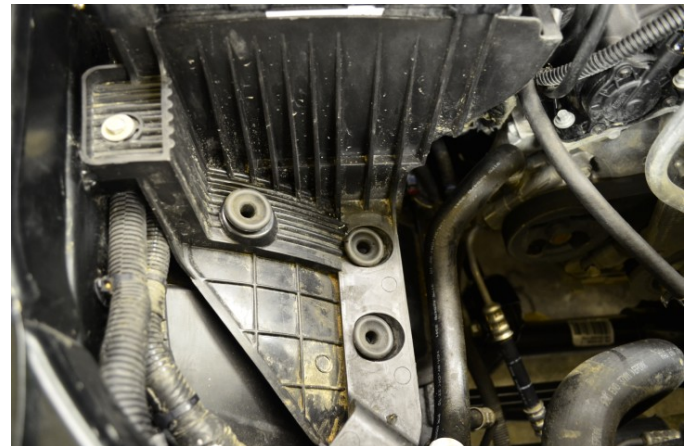


2. Disconnect the radiator overflow tube and two 10mm bolts securing the air intake.
3. Loosen hose clamp connecting the air filter box to the intake tube.

Genesis Offroad



4. Remove the crankcase vent hose from the air filter box by twisting and pulling until it comes off. Do not pry on the hose with any tools.
5. Unfasten the top of the air filter box and remove the top cover and air filter
6. Remove the lower half of the air box by grabbing at the bottom and pulling up. Make sure the rubber grommets remain in place. These will be reused.



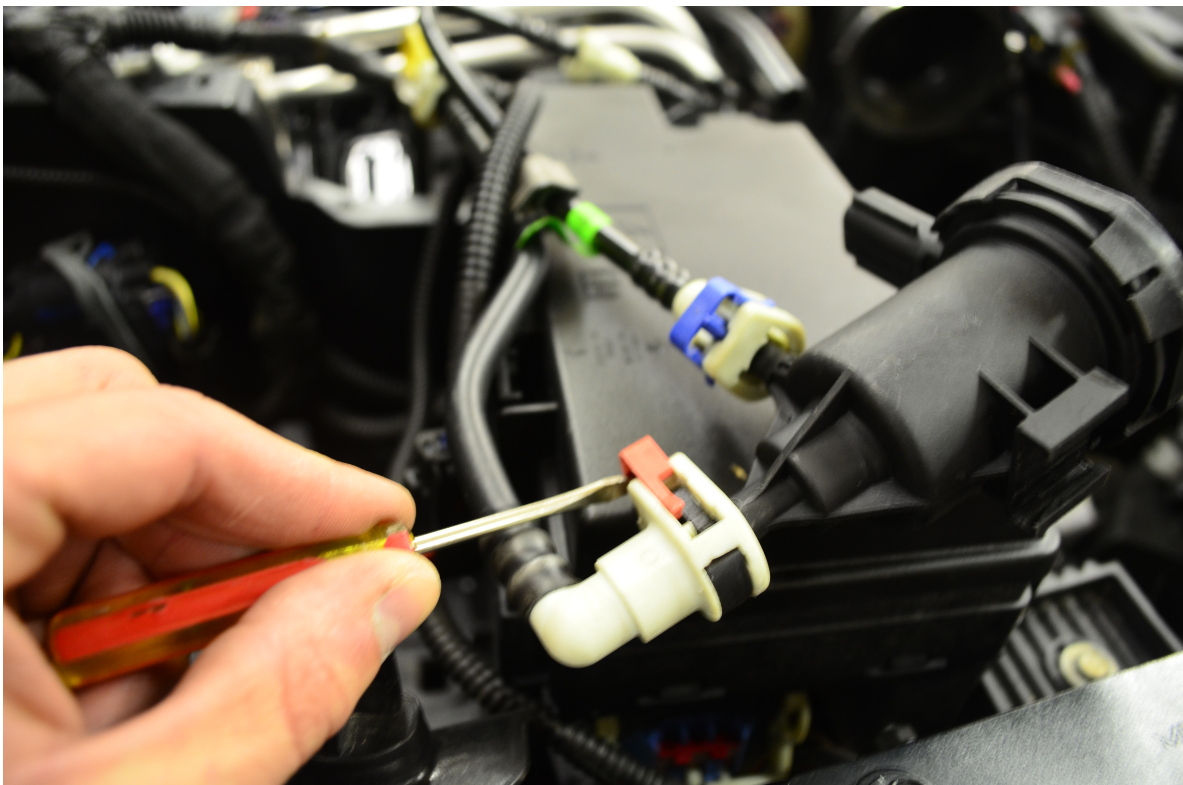
C. Remove Evap Solenoid

1. Remove the electrical connector by pushing the red tab to the side to unlock it, then push the black tab down and pull to remove it.

Genesis Offroad



2. Pull up on the solenoid to remove it from its mounting tab.
3. Use a small flathead screwdriver to release the red and blue locking tabs on the hoses.

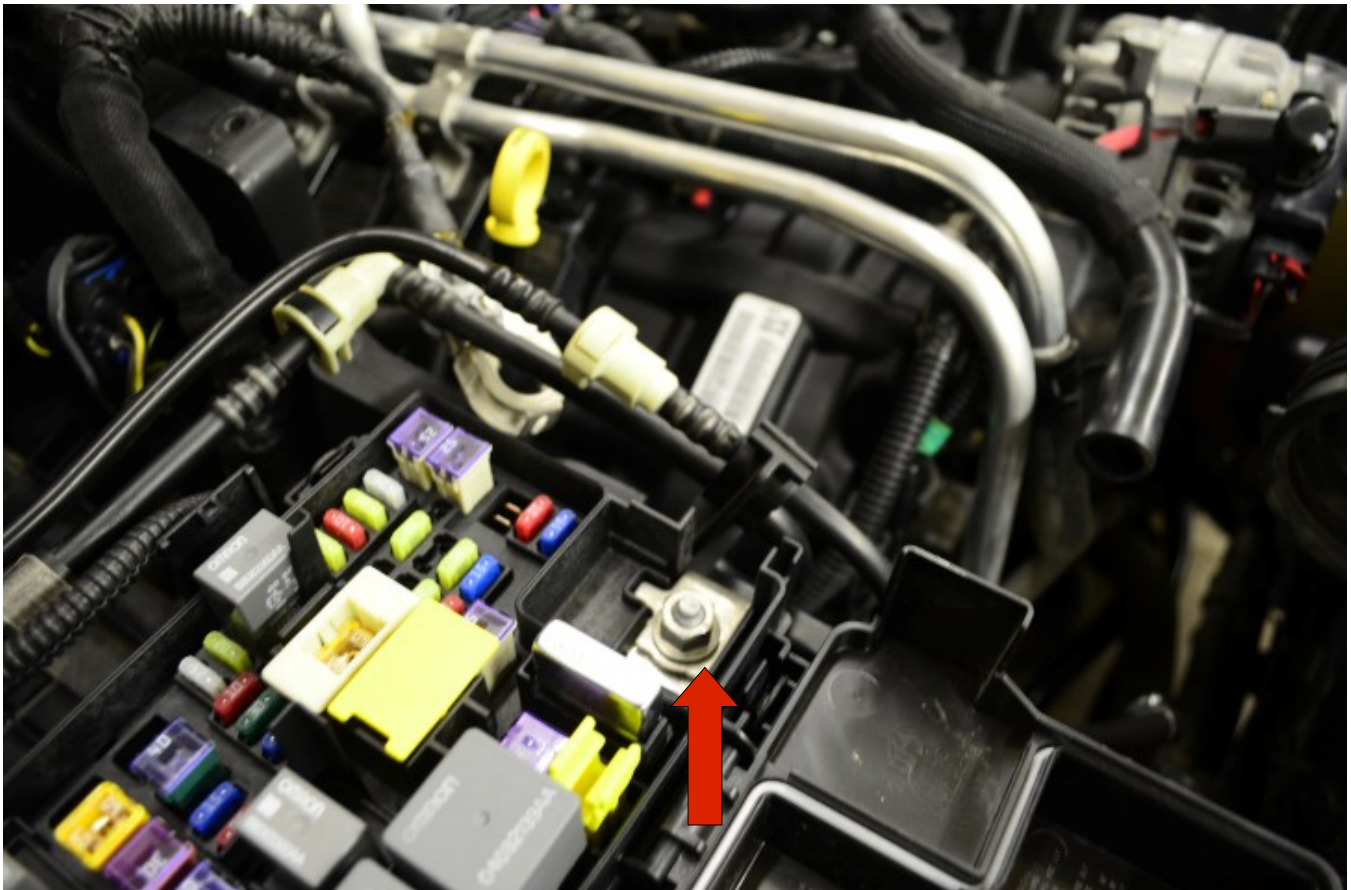


Genesis Offroad

4. Use both hands to push the hose into the solenoid while you press the black tab. While holding the tab in, pull the hose off the solenoid. Repeat for second hose with the white tab.
5. Set the solenoid aside. It will be remounted to the new battery tray later.

D. Remove Factory Fuse/Relay Box

1. Open the lid of the fuse/relay box
2. Use a 13mm socket to remove the main power feed cable.



3. Close the fuse/relay box lid.
4. There are 4 mounting tabs that secure the fuse/relay box. Use a flathead screwdriver to gently release each of the tabs while lifting

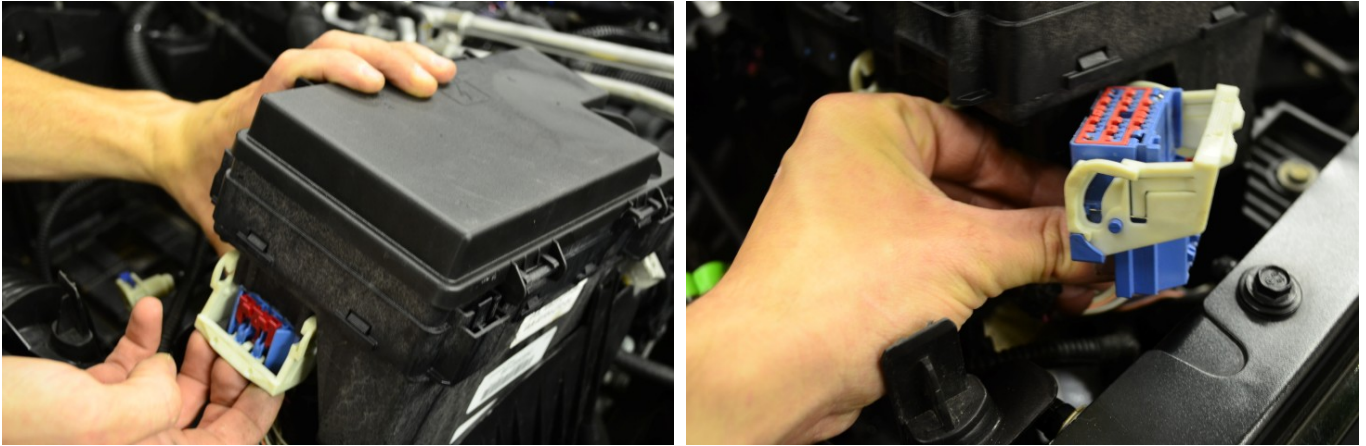
Genesis Offroad

the relay box. Keep upward pressure as you work your way around so the tabs don't reattach.

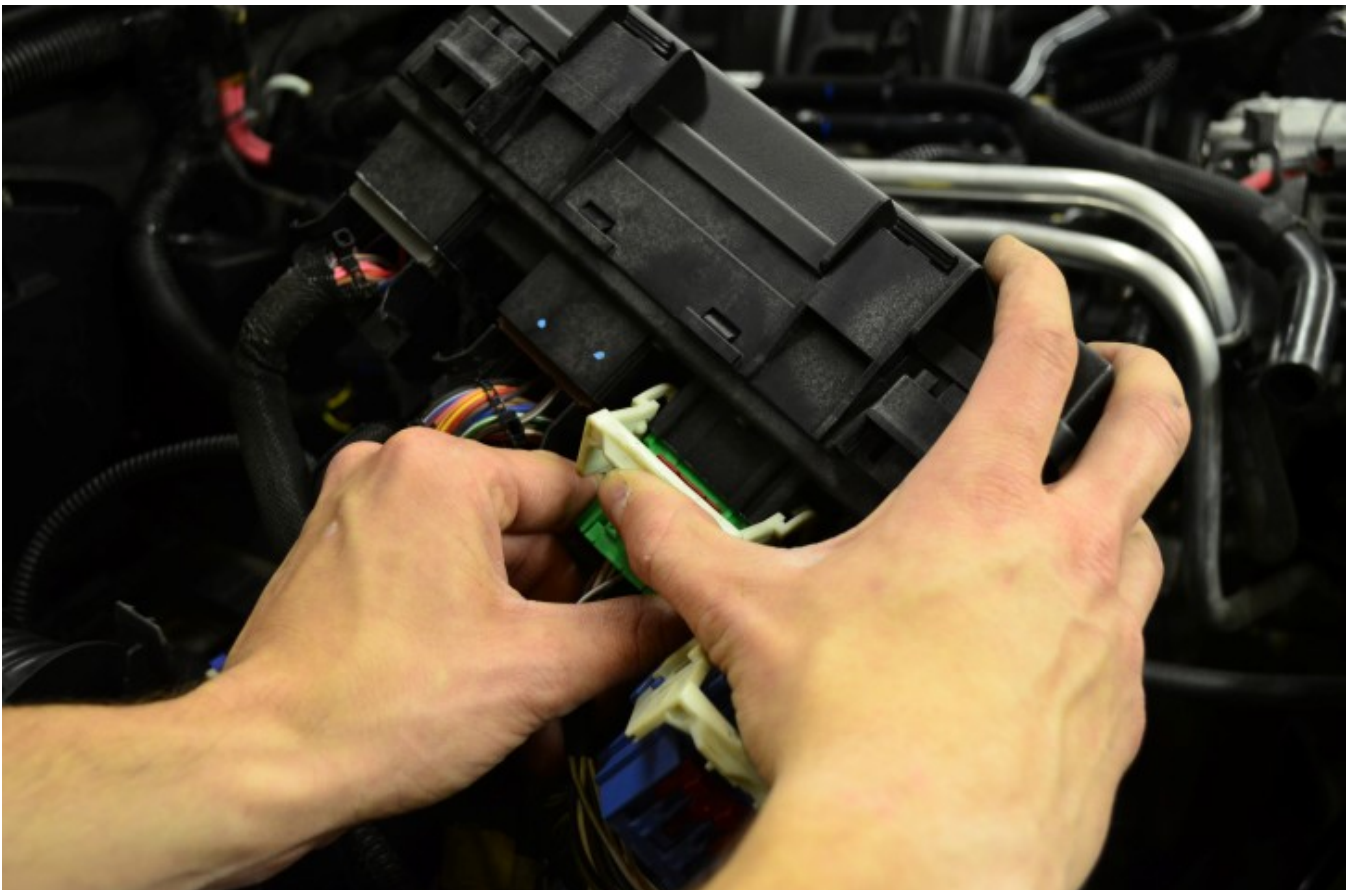


5. Raise the fuse/relay box to access the connectors on the bottom.
6. Blue connector – push the red locking tab upward until it clicks to unlock
Pull out and upward on the white latch to unlock it
Pull blue connector out by wiggling it while also pushing the white latch up

Genesis Offroad



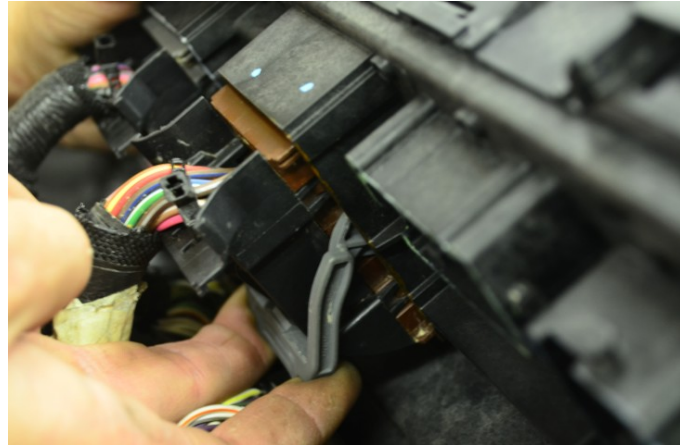
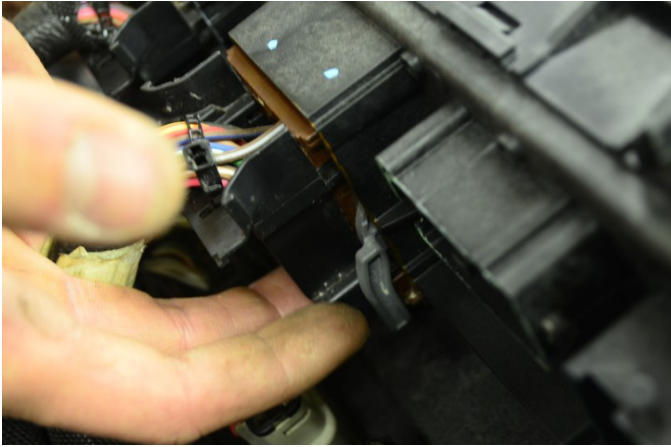
7. Now you can lift the fuse/relay box up more to access the other connectors
8. Repeat to disconnect the green connector



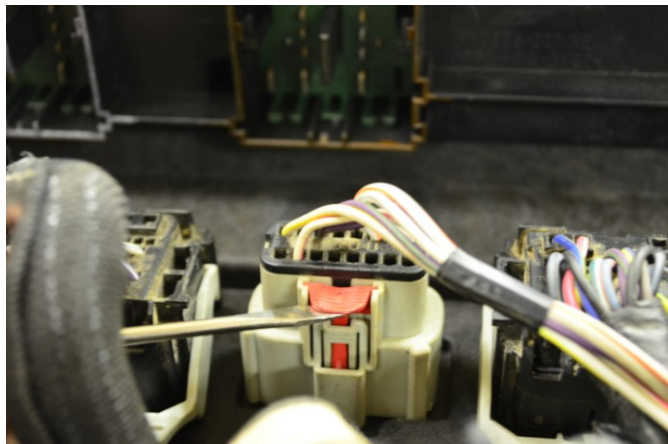
9. Brown connector – press the release button under the connector,

Genesis Offroad

then rotate the gray latch downward to disconnect it.



10. Repeat to disconnect the gray connector.
11. Center connector – gently pry the red locking tab up with a flathead screwdriver, then push the white tab and pull the connector out.



Genesis Offroad

12. The last 2 connectors have a large latch. Use the finger indentions to lift the latch and remove the connectors.



13. Set the fuse/relay box out of the way.

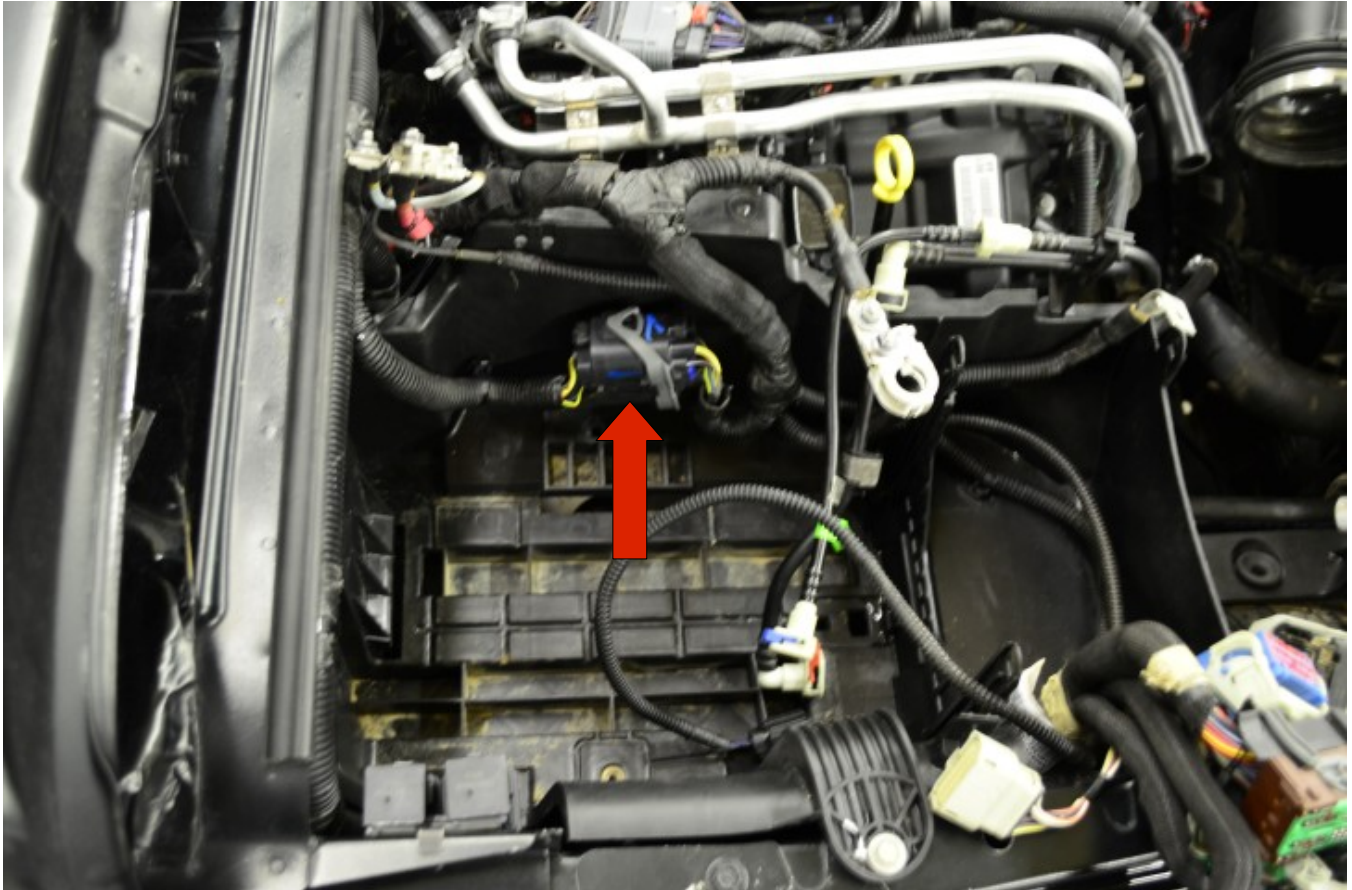
E. Remove Wire Harness Clips

1. Remove all the Christmas tree fasteners that are securing the wiring harness with a small clip removal tool or flat head screwdriver.



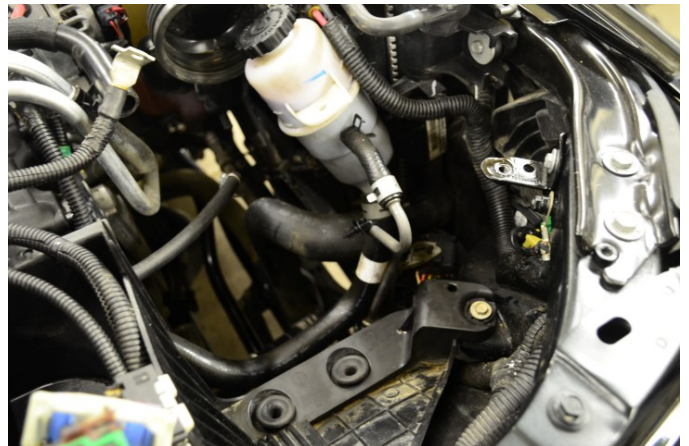
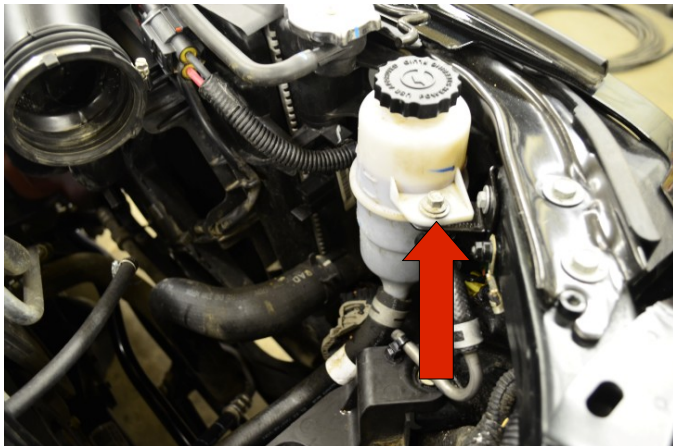
2. Pull the large black connector off the side of the battery tray.

Genesis Offroad



F. Power Steering Reservoir

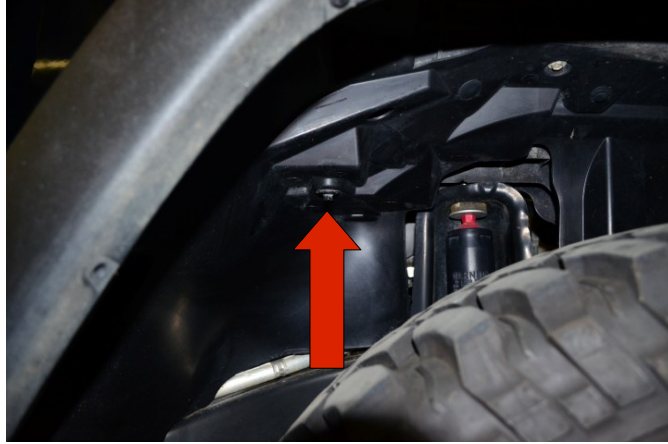
1. Remove the 10mm bolt holding the power steering reservoir.
2. Remove the christmas tree securing the hard line by gently prying up



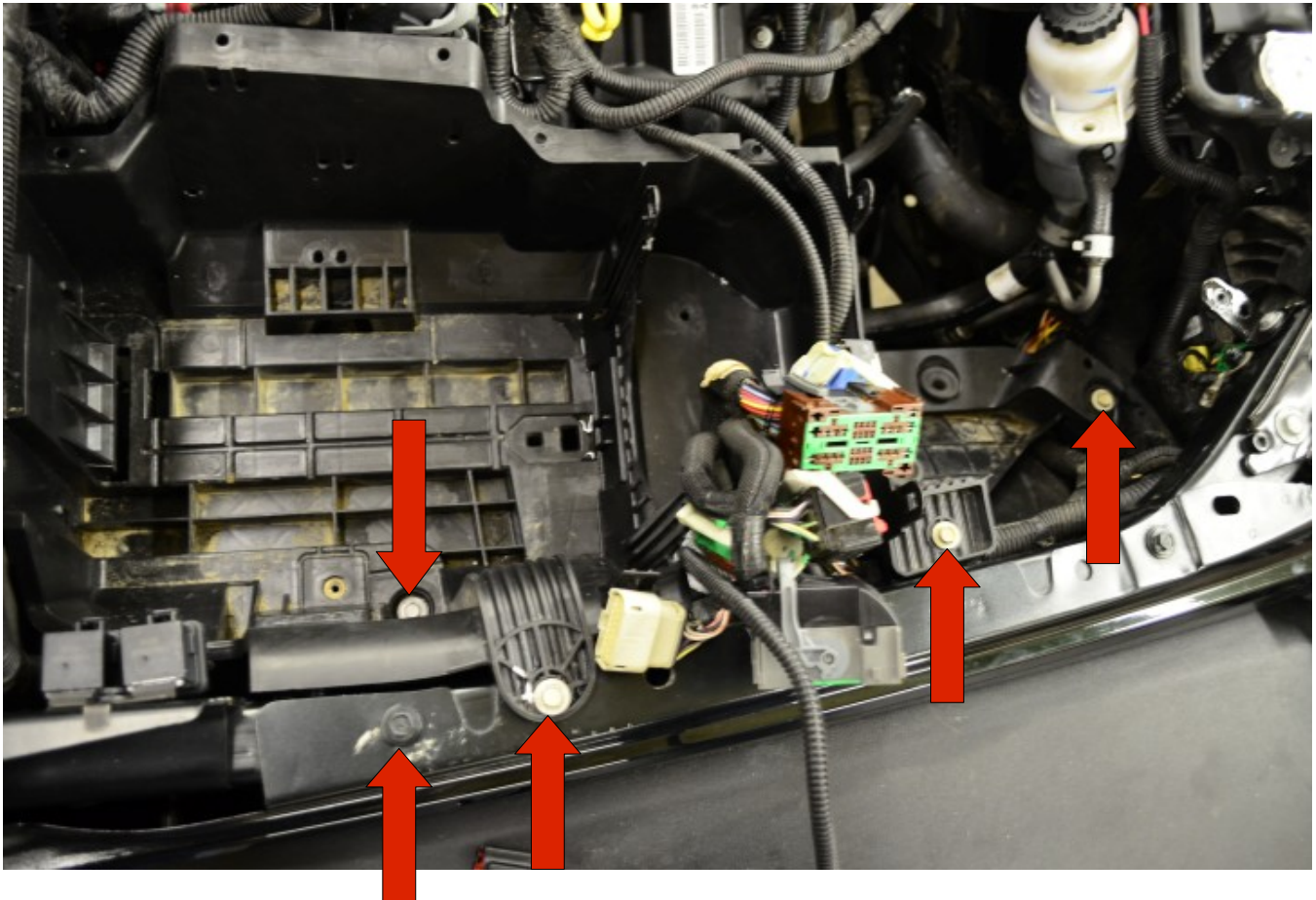
Genesis Offroad

G. Remove Factory Battery Tray

1. Remove one 10mm bolt from the fender well

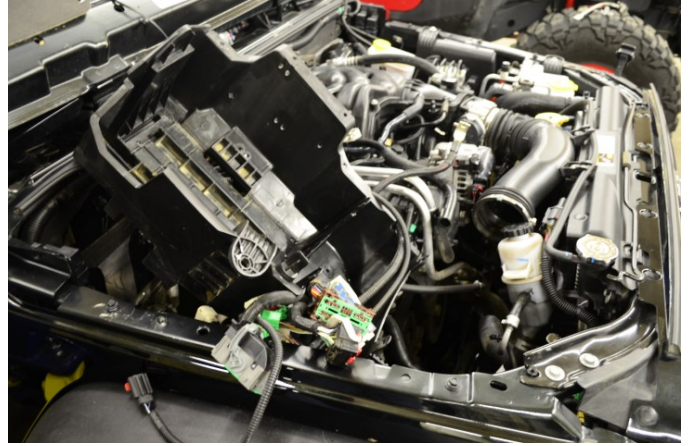
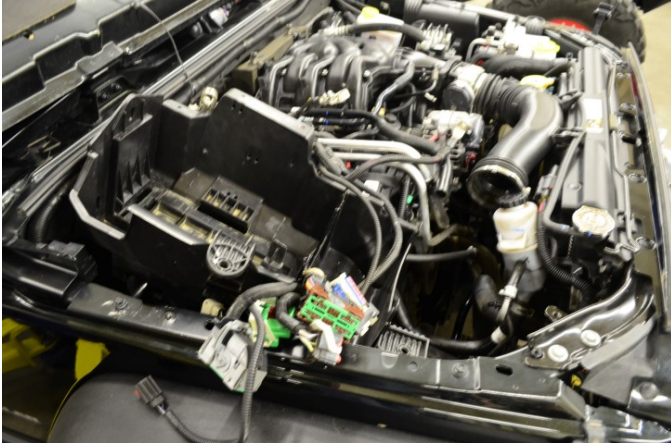


2. Remove the 3 10mm nuts from the firewall and 5 10mm bolts as shown.



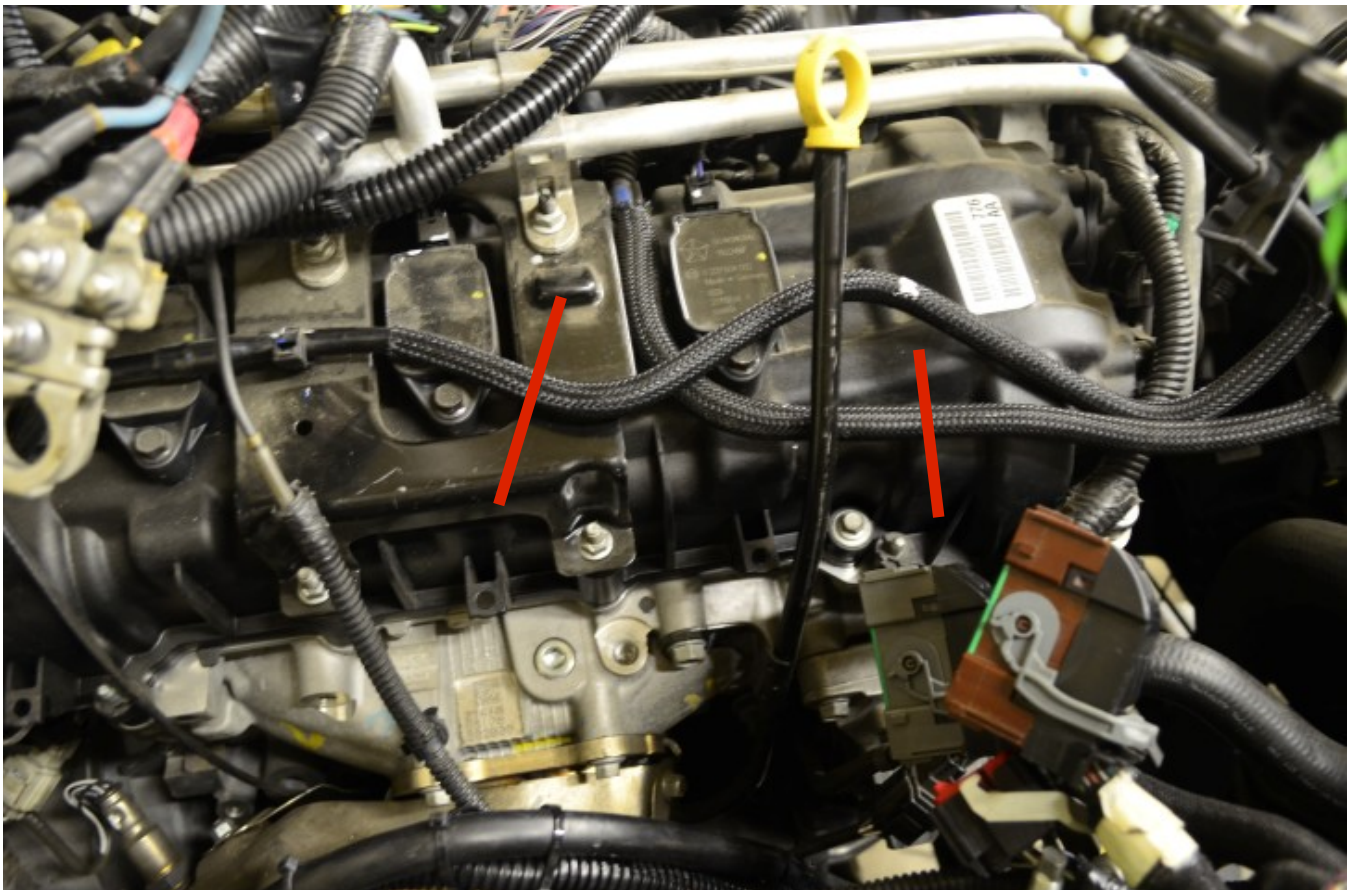
Genesis Offroad

3. Pull the plastic battery tray out. Push the firewall wires out of the way and raise from the rear and pull it out.



H. Evap Solenoid Hoses

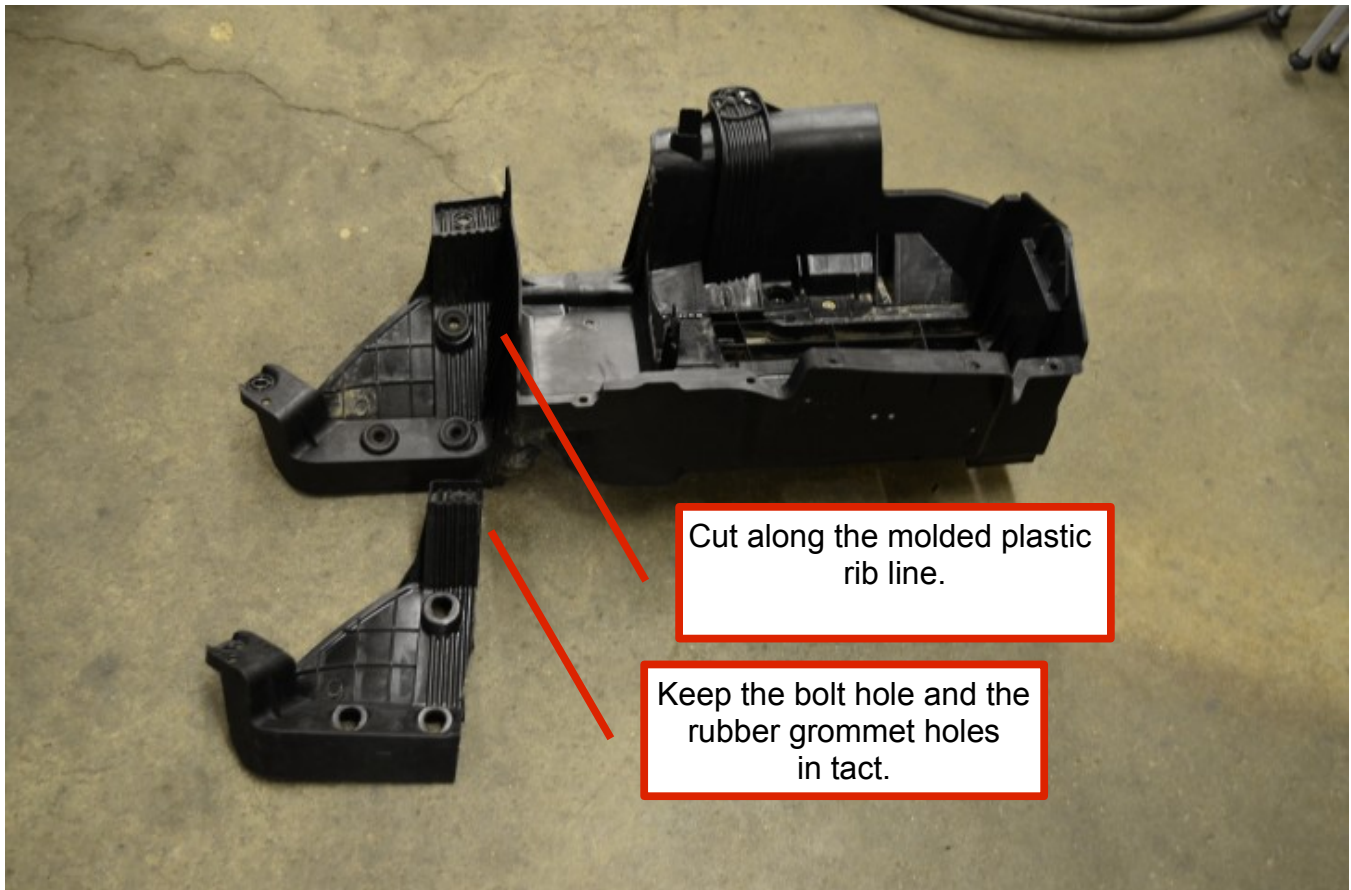
Cut the 2 vent hoses as shown with strong scissors or tin snips.



Genesis Offroad

I. Air Box Mounts

1. Cut the factory air box mount off as shown. You will see a molded plastic 'rib' line. Simply follow this line with a cut off wheel or air saw or other cutting tool. You will reuse the stock air box mount.



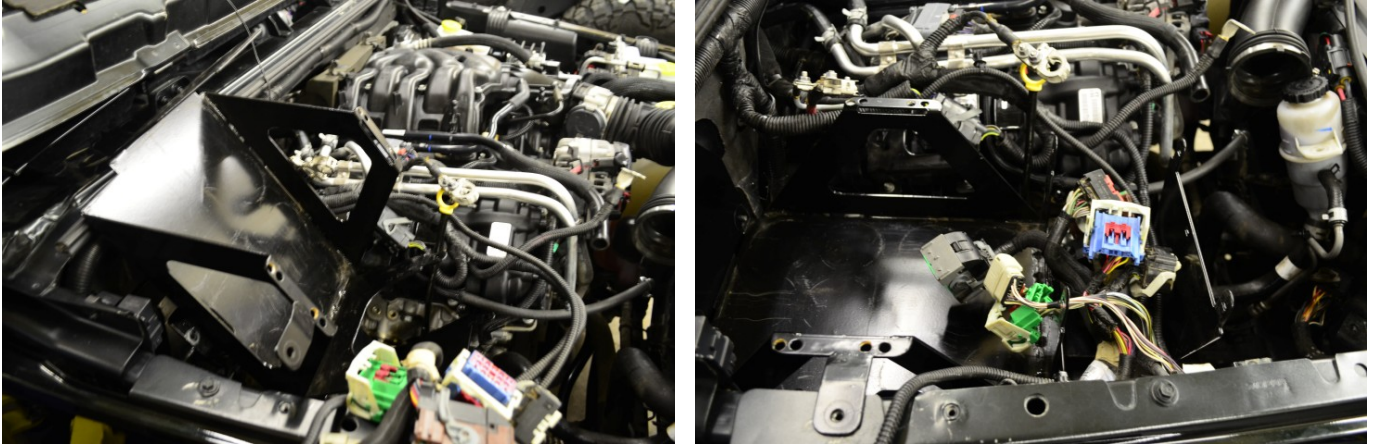
- If you ever want to remove the battery kit and put the stock tray back in place, you can easily do so. The plastic battery tray is strong enough to hold the battery without the air box section attached. And the air box mount is more than sufficiently strong to hold up the light weight air box.

Genesis Offroad

Install New Components

A. Install Genesis Offroad Battery Tray

1. Install the new battery tray just like the factory tray came out.



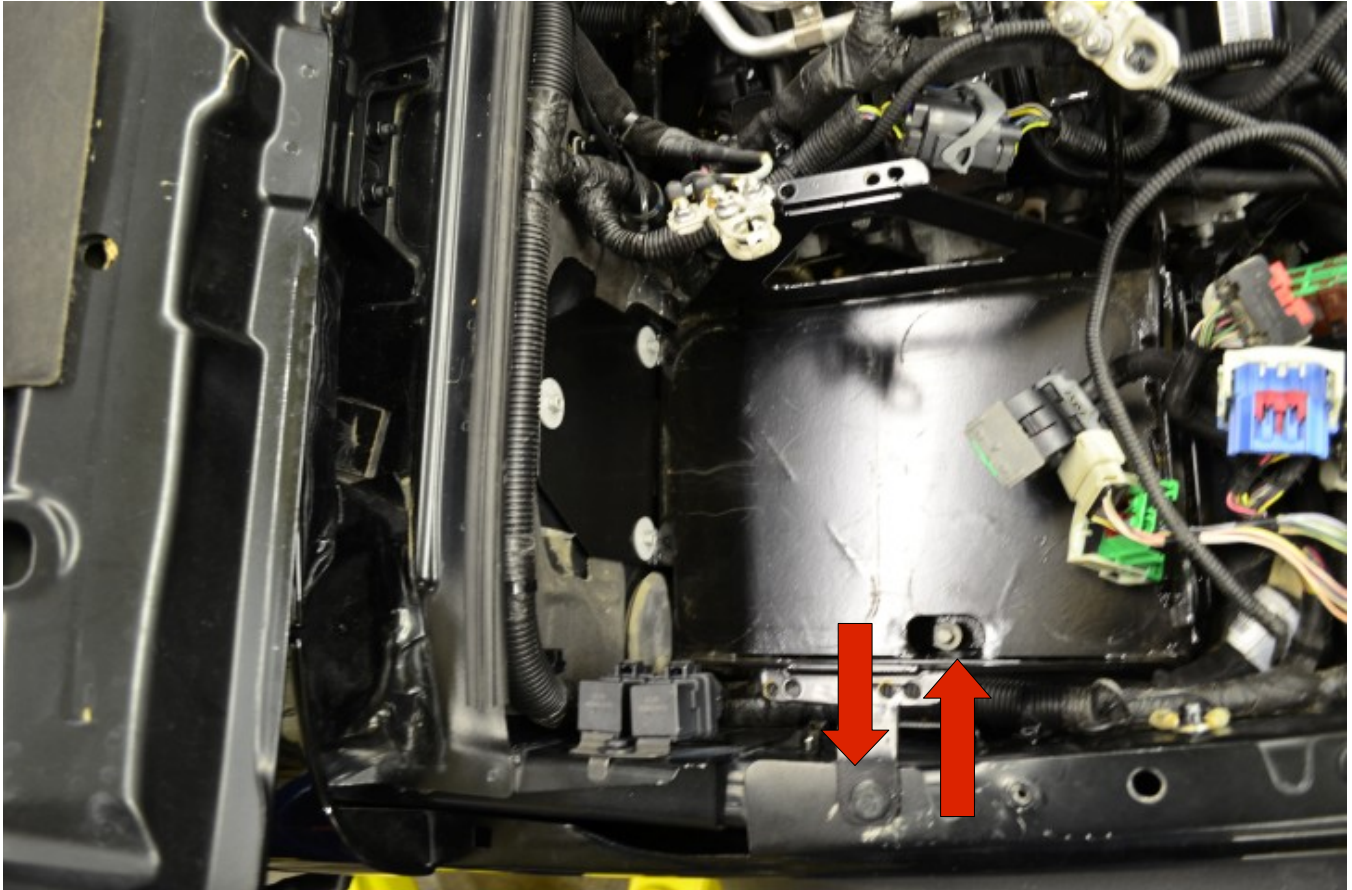
2. Align with the bolts on the firewall
3. Route the wires for the fuse/relay box as shown above
4. Reinstall the TOP factory firewall nut. Install the supplied washer and M6x1.00 nuts on the bottom 2 studs. The factory washers are normally too large to fit onto the new tray.
5. Use a cutoff wheel to cut the excess threads flush with the nuts as shown

Genesis Offroad



6. Loosen but do not remove the firewall nuts. This will make it easier to align the other 2 bolts.
7. Loosely reinstall the fender bolts as shown.

Genesis Offroad

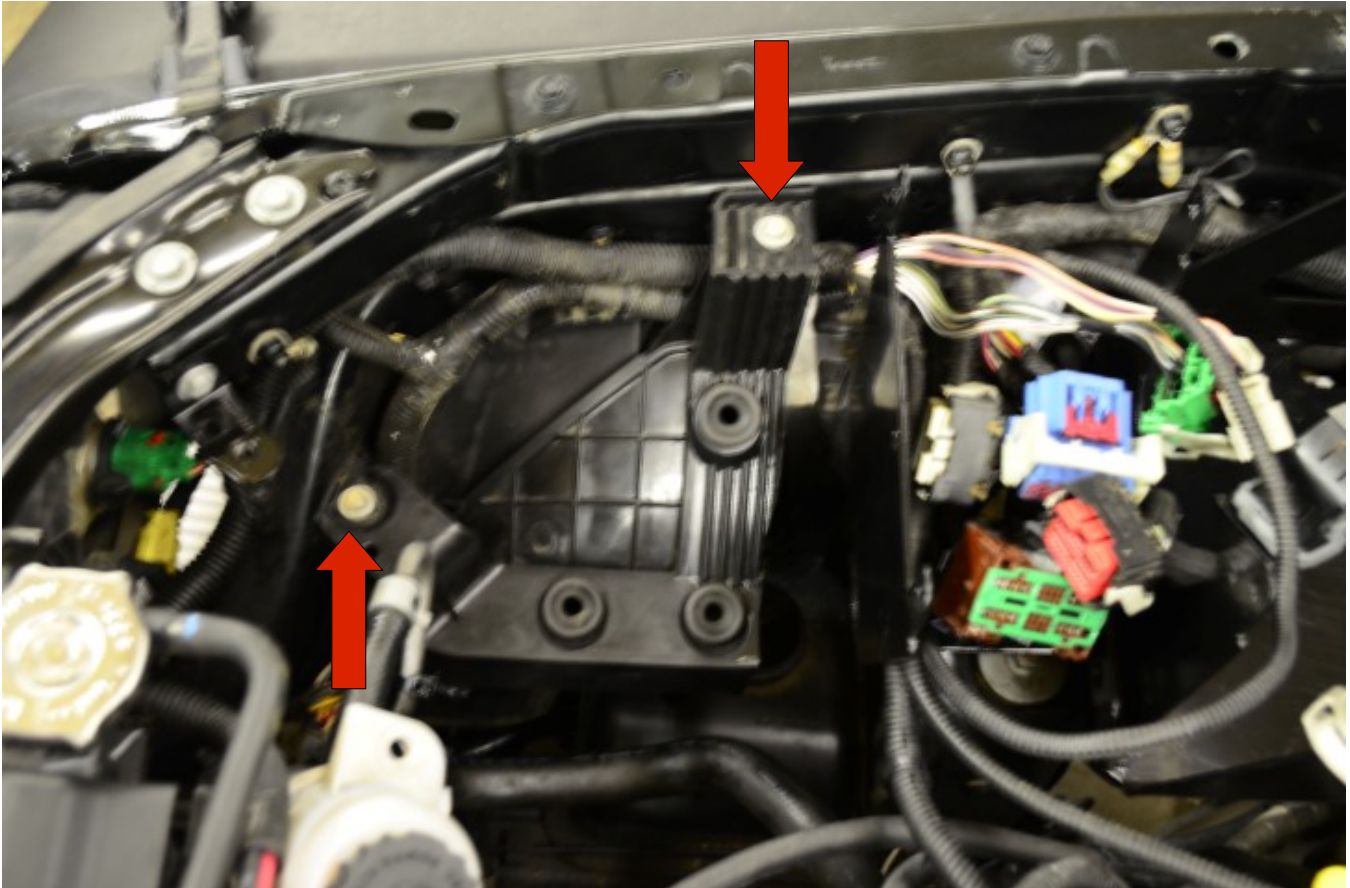


8. Due to manufacturing variances, you may need to place the supplied rectangle washer under the tray on top of the factory support bracket. You can reach this spot by reaching under the tray from the front, under the relay box first.
9. The tray should sit flush on top of the fender, and very close to flush on top of the lower bracket, without having to bend or stress any of the brackets. Use additional large washers under the tray only if necessary.
10. Tighten the firewall nuts **first**, then tighten the fender bolts. Due to slight manufacturing variations on the fender and brackets, it is easiest to get all the bolts in loosely so the tray can be moved around to get all of them lined up. It will fit.
11. Reinstall the fender well fastener onto the factory bolt threads.

Genesis Offroad

B. Air Box

1. Install the cutoff section of the air box mount using 2 10mm factory bolts



2. Reinstall the power steering reservoir onto its bracket with 1 10mm bolt
3. Reinstall lower section of the air box by pushing down until it snaps into the rubber grommets.
4. Reinstall air filter and top cover, then tighten the hose clamp on the intake tube.
5. Reinstall the crankcase vent tube onto the side of the air box cover
6. Reinstall the 2 10mm bolts that secure the air intake tube to the top of the radiator

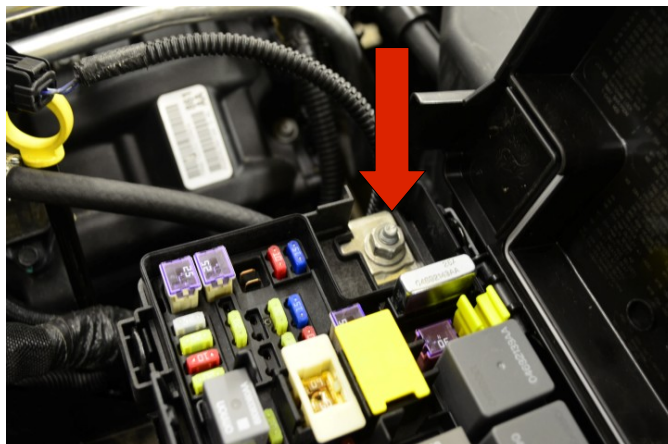
Genesis Offroad

C. Evap Solenoid

1. Install the vent hoses supplied in the kit onto the lines you cut earlier.
Note there are 2 different sizes of vent hoses. The larger hose goes to the side of the solenoid, and the smaller hose goes to the bottom of the solenoid.
2. Install hose clamps to secure the vent hose to the solenoid. Hose clamps are not required on the other end.
3. Slide the solenoid onto the mounting tab on the side of the tray. This tab is riveted onto the tray just to make it a little easier to make adjustments to the mounting location if necessary due to other components or different engines.
4. **FOR '07-11 JK ONLY** – Install the supplied wire harness extension cable between the factory connector and the solenoid.
5. **FOR '12+ JK** – No extension harness is required. Plug the factory connector into the solenoid.

D. Fuse/Relay Box

1. Reinstall all the connectors onto the fuse/relay box. Installation is the reverse of removal
2. Slide the fuse/relay box down onto the mounting tabs
3. Reconnect the main power feed cable inside the fuse box using the factory 13mm nut



Genesis Offroad

E. Batteries

1. Leave the plastic covers on your battery posts for safety
2. Install your cranking battery with posts towards the firewall. Make sure the positive terminal is it toward the engine side and the negative terminal is toward the fender side.
3. Install your accessory battery with posts towards the front of the vehicle as shown



Genesis Offroad

F. Top Plate

1. Make sure the posts are still covered to prevent shorting the batteries, then lower the top mount plate over the batteries.



2. Secure the top plate with 4 included stainless steel bolts, lock washers, and nuts. You want it very snug, but do not over tighten to the point of bending the top plate.

NOTE there should be a GAP between the top plate and the main battery tray. This gap allows you to get the bolts very snug and leaves tension on the nuts.

3. Attach the factory positive terminal to the cranking battery by the firewall. Tighten the 10mm nut on the post clamp.
4. Remove the 10mm nut on the factory positive lead closest to the firewall, and attach the red lead from the smart isolator, then reinstall the nut.

Genesis Offroad



5. Remove the plastic cover from the accessory battery negative post. Attach the factory negative terminal connector to the accessory battery. Remove 10mm nut from factory negative wire lead and attach the ring terminal from the negative wire lead as shown.



6. Attach post clamps to the cranking battery negative and the accessory battery positive posts.



Genesis Offroad

Final Notes

1. Reinstall engine cover.
2. Double check all wires and hoses are properly secured.
3. Start the Jeep.
4. Check the status indicator light on top of the smart isolator. Once the smart isolator detects that both batteries are at 13.2 volts, the LED light will come on, indicating the batteries are fully charged and connected. Brand new batteries may need to charge from the alternator for several minutes before the indicator light comes on. This is normal.



Genesis Offroad

Congratulations on installing your new dual battery kit!

For questions or assistance, email us at support@genesisoffroad.com

Be sure to post a picture of your installation on our Facebook page -
www.facebook.com/GenesisOffroad