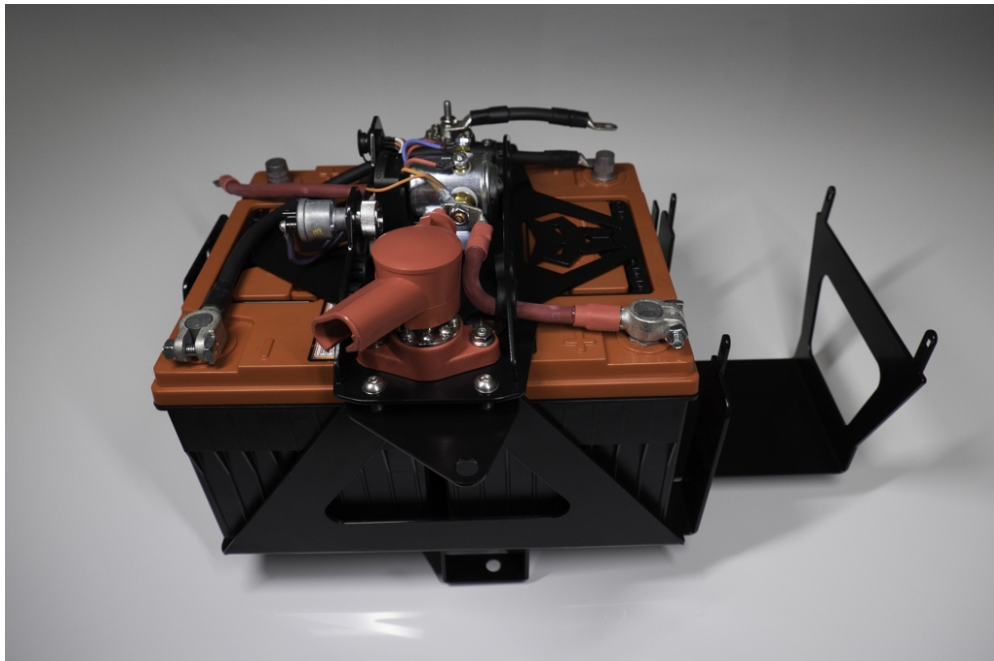


# GENESIS OFFROAD



## JK Dual Battery System

131-JKDBK



## Installation Guide

For 2007+ JK

Revised 8/18/14

# 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
G Screen Interface Port	1	Ratchet with extension
High Amp Power Bus Bar	1	Cut Off Wheel or similar
Ground Bus Bar	1	Scissors or Tin Snips
Dust Cover	1	
Wiring Harness	1	
Stainless Lid Bolts	4	
Stainless Lid Washers	4	
5/16" Fuel-safe Vent Hose	1	
1/4" Fuel-safe Vent Host	1	
Firewall nut covers	3	
Evap harness extension*	1	

\* 07-11 Models Only

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## Remove Factory Components



### A. Remove Battery



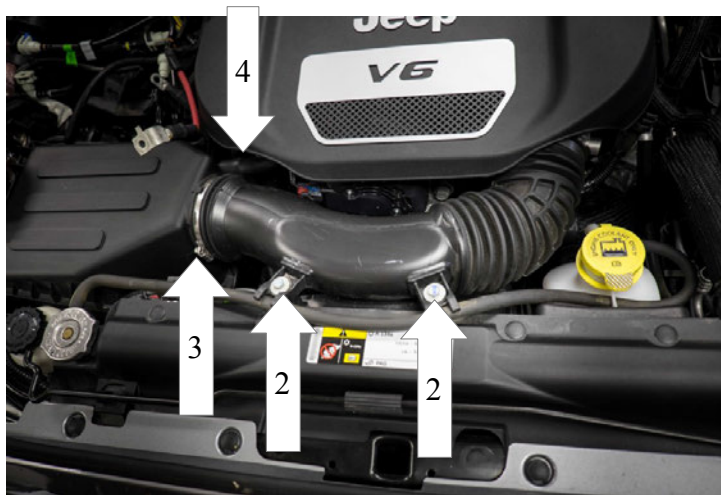
1. Disconnect NEGATIVE battery cable first, then disconnect positive cable. Secure cables out of the way.



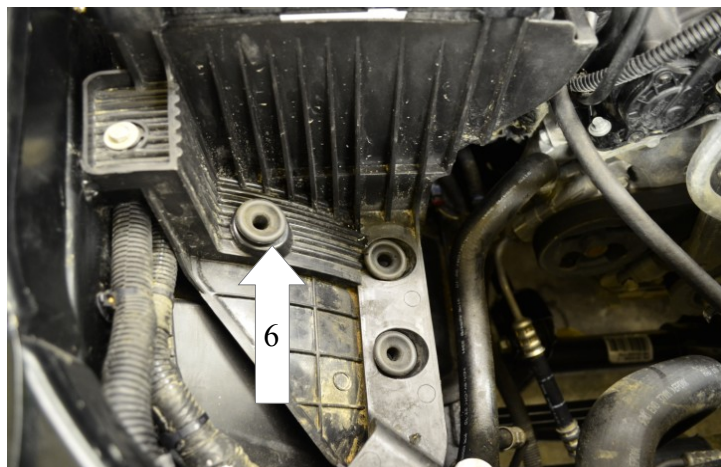
2. Use a 10mm socket with a long extension to remove the factory battery hold down bracket located between the battery and the fender.
3. Remove the factory battery and set out of the way.

# GENESIS OFFROAD

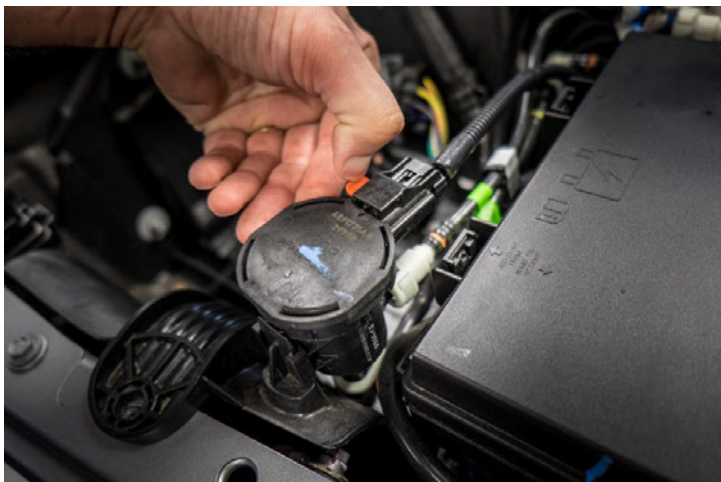
## B. Remove Factory Air Box



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.
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.
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.

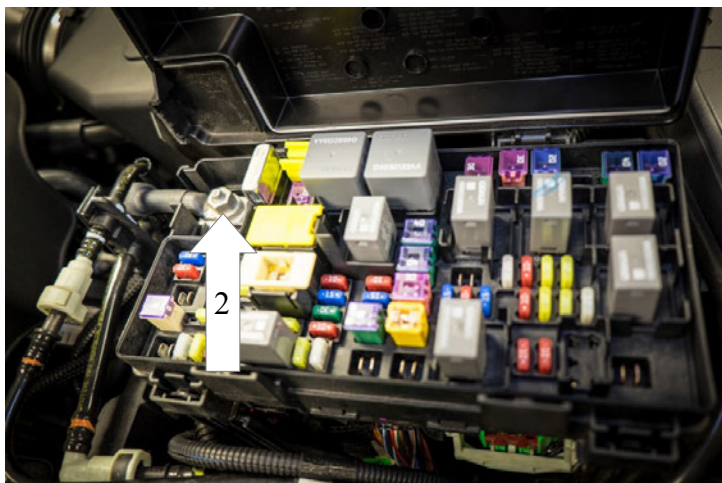


# GENESIS OFFROAD



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



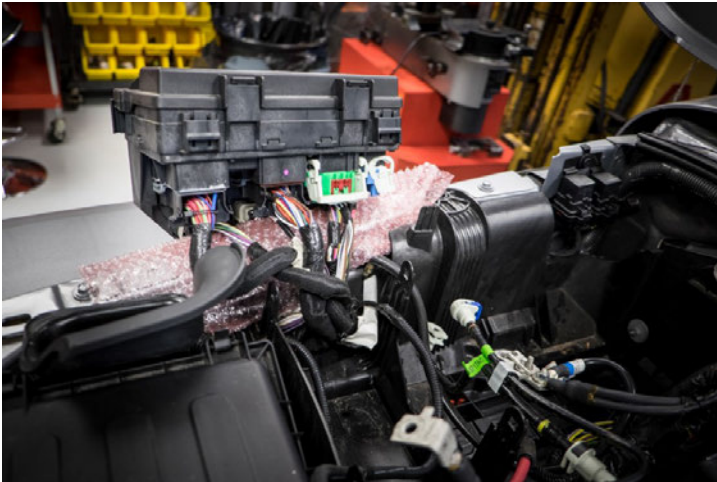
1. Open the lid of the fuse/relay box
2. Make a note of how the main power feed cable is routed to the fuse box. Your stock wiring harness will be reinstalled in the same orientation.



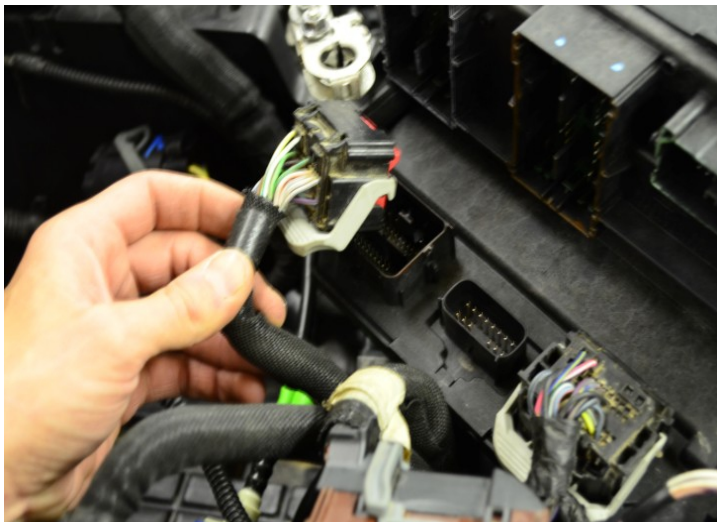
3. Use a 13mm socket to remove the main power feed cable. After removing the power cable, reinstall the nut so you don't lose it.
4. Close the fuse/relay box lid.
5. There are 4 mounting tabs that secure the fuse/relay box. Use a flathead screwdriver to gently release each of the tabs while lifting the relay box. Keep upward

pressure as you work your way around so the tabs don't reattach.

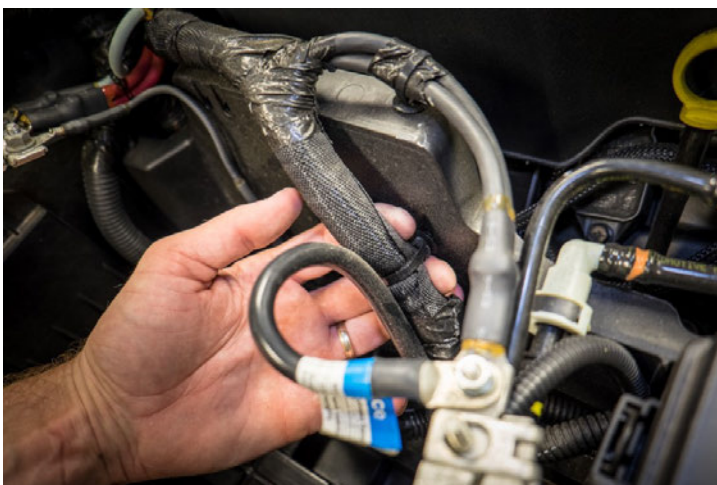
# GENESIS OFFROAD



6. At this point, you can attempt to lift the fuse box up and over the side of the fender (be careful not to scratch the fender) with all the connectors still attached.
7. If you are not able to get the fuse box out of the way enough to remove the stock battery tray, you can disconnect the connectors on the bottom and remove the fuse box entirely. 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 to the side of the factory tray with a small clip removal tool or by gently pulling. Try not to damage these fasteners because you will reattach them to the new tray.



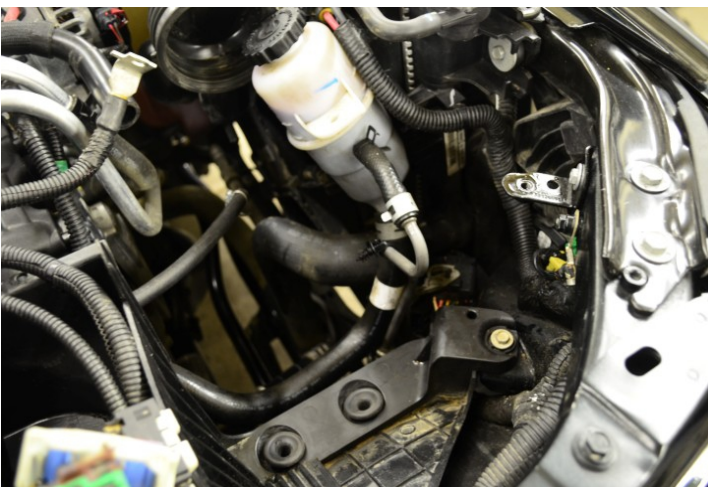
# GENESIS OFFROAD

## F. Power Steering Reservoir



Moving the power steering fluid bottle out of the way will make it easier to get the factory tray out.

1. Remove the 10mm bolt holding the power steering reservoir.
2. Remove the christmas tree securing the hard line by gently prying up. Just move the reservoir out of the way while you remove the battery tray.

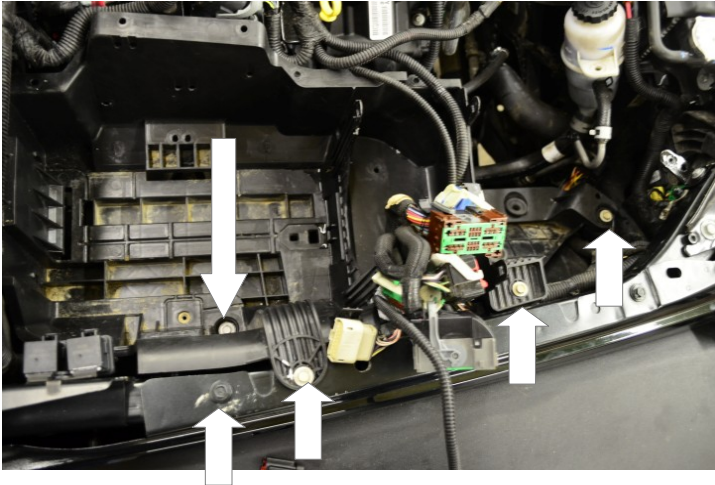


## G. Remove Factory Battery Tray

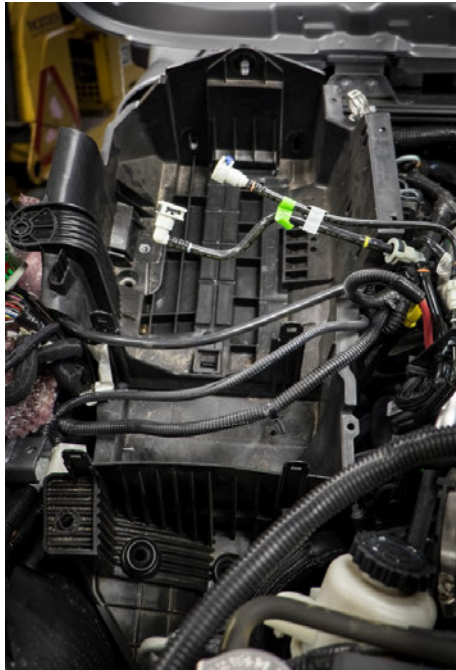


1. Remove one 10mm bolt from the fender well

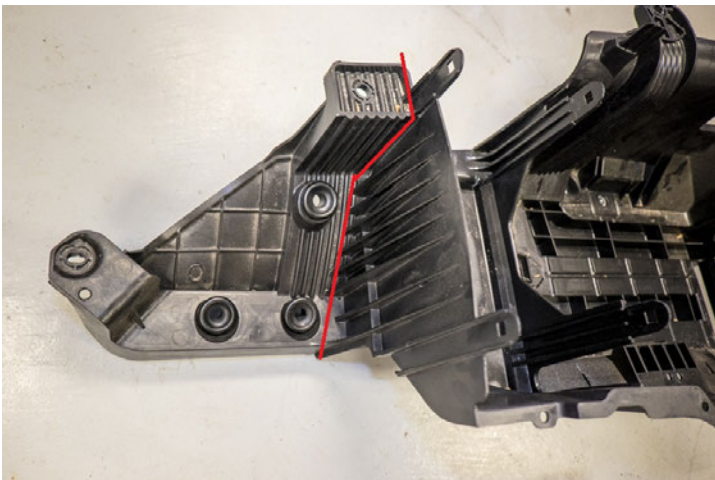
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2. Remove the 3 10mm nuts from the firewall and 5 10mm bolts as shown.



3. Pull battery tray out. On some models it is easier to remove the tray by lifting from the front first, others by lifting from the rear first.



## I. Air Box Mounts

Cut the factory air box mount off along with red line shown. Simply follow the molded 'rib' line with a cut off wheel or air saw or other cutting tool. Be sure to keep the 3 rubber grommet mounts and the fender bolt holes. You will reuse the stock air box mount.



# 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. Reinstall the factory nuts onto the firewall.



4. Use a cutoff wheel to cut the excess threads flush with the nuts as shown below.



5. Place the plastic caps over the cut off threads on the firewall. This will protect your batteries from being scratched.

# GENESIS OFFROAD



6. Loosely reinstall the lower fender bolts as shown. 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.

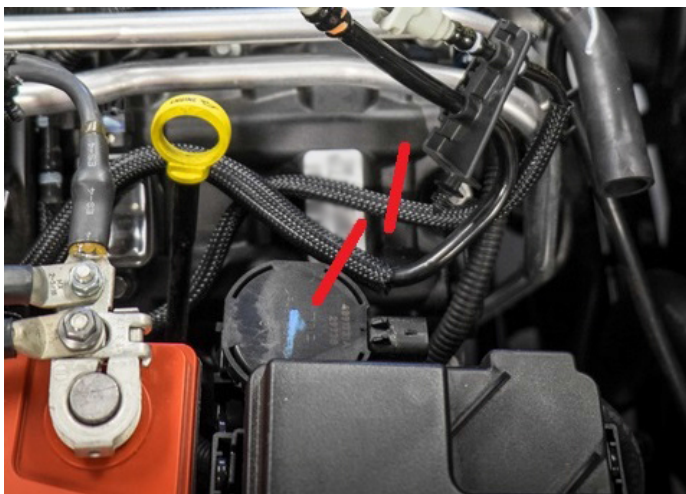
## H. Evap Solenoid Hoses

The evap solenoid will be relocated to a tab on the tray. The factory molded plastic lines are designed to reach the factory mounting location. You will cut the hard plastic lines and add our short rubber hose to reconnect the solenoid.

**FOR '07-11 JK ONLY** – Install the supplied wire harness extension cable between the factory connector and the solenoid.

**FOR '12+ JK** – No extension harness is required. Plug the factory connector into the solenoid.

Picture below shows a 2012+ 3.6L.



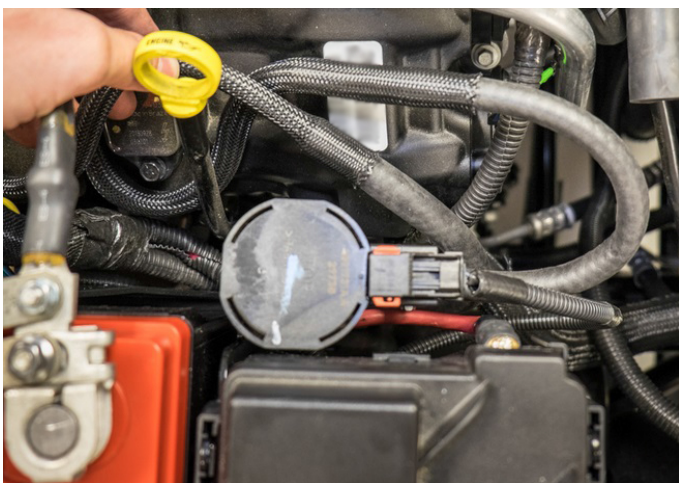
Push the braided sleeve back and cut the hard line with strong scissors or tin snips.

# GENESIS OFFROAD



Here you see the hard lines cut, and the new fuel hose attached to the evap solenoid.

Use the hose clamps included with the kit to secure the fuel hose to the evap solenoid.



Push the new fuel hose onto the hard lines as far as they will go, then push the braided line down over the new fuel hose.

You do not need a hose clamp on this end because the hard line will make a tight fit inside the new fuel hose.

Picture below shows a 2007-11 3.8L engine, with the hard lines already cut, to show the approximate location to cut.



**TIP:** To find the best place to cut the lines, attach the new fuel lines to the evap solenoid, place the evap solenoid on the tab on the battery tray, then hold the fuel lines up to see where they line up with the factory hard lines. Make sure the fuel hose does not have any kinks or interference with other components. Mark a spot on the hard lines where the new fuel line will overlap slightly.

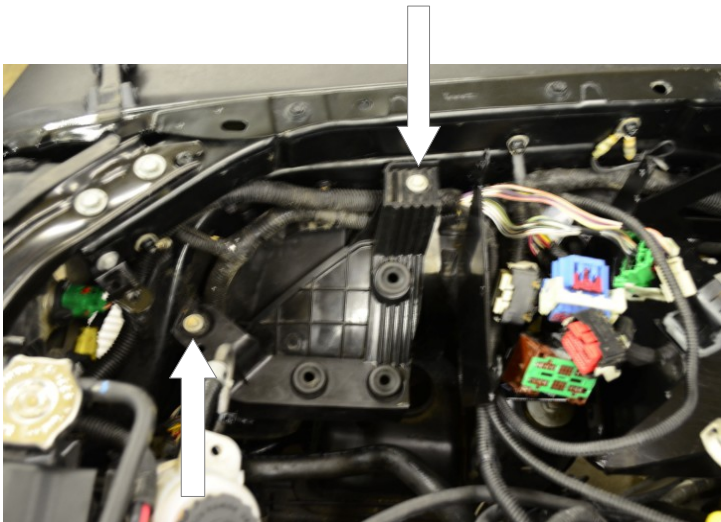


# GENESIS OFFROAD



Extension cable routing  
for 2007-2001 JK only.

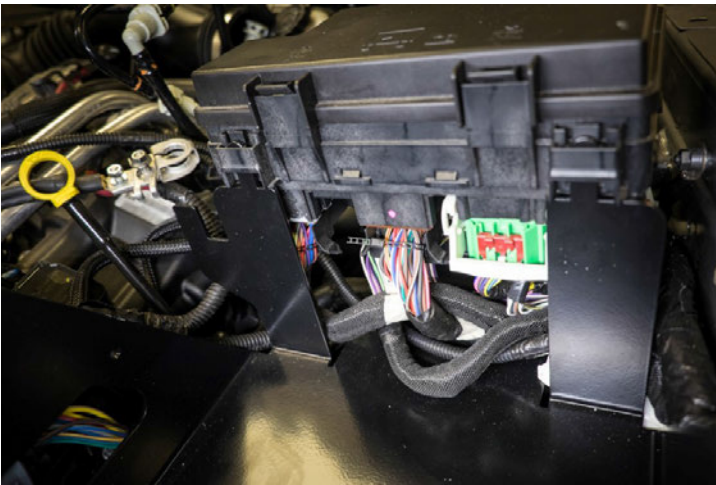
## B. Air Box



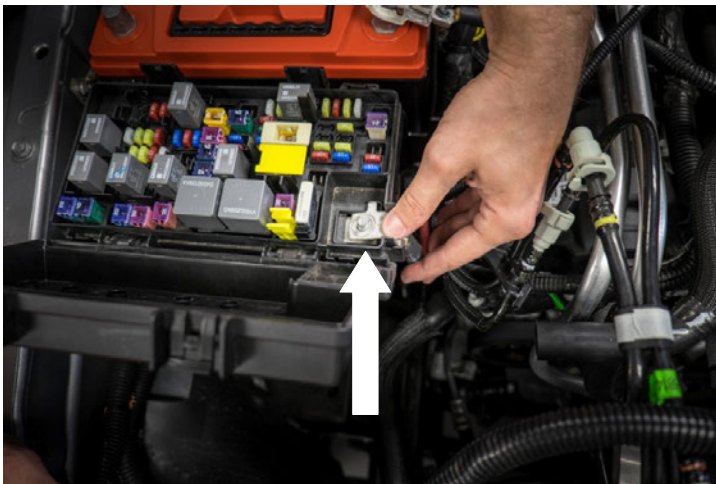
1. Install the cutoff section of the air box mount using 2 10mm factory bolts.
2. Reinstall the power steering reservoir onto its bracket with 1 10mm bolt.
3. Reinstall lower section of the air box by pushing down until it snaps into the rubber grommets.
4. Reinstall air filter and top cover, then tighten 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

## D. Fuse/Relay Box



1. Slide the fuse/relay box down onto the mounting tabs.



2. Reconnect the main power feed cable inside the fuse box using the factory 13mm nut.



## 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 toward the engine side and the negative terminal is toward the fender side.
3. Install your accessory battery with posts towards the front 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.

**NOTE:** If using Optima batteries, the top lid has 4 round cut-outs that line up with the raised circles on the batteries. Be sure the top lid is sitting flush against the top of 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.

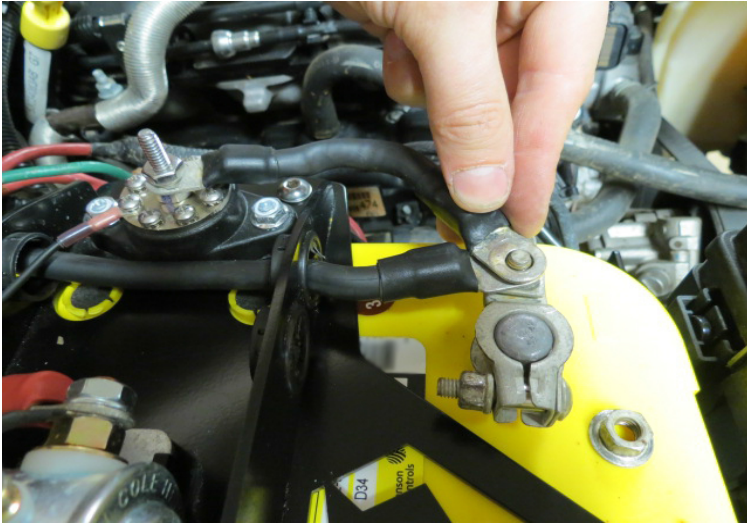
**NOTE:** There may be a **GAP** between the top plate and the main battery tray. Optima batteries are slightly shorter than Odyssey batteries. This gap allows you to get the bolts very snug and leaves tension on the nuts.



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. Stack the lead from the ground bus bar, and tighten the nut securely.



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

## Final Notes

1. Reinstall engine cover.
2. Double check all wires and hoses are properly secured.
3. Start the Jeep. NOTE: If the Jeep won't start, or you have any unusual symptoms, check all the connectors on the bottom of the fuse box. Removing and reseating the connectors normally clears any issues.

# GENESIS OFFROAD

4. Check the status indicator light on top of the smart isolator. Once the smart isolator detects the cranking battery is at 13.2 volts, the red 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.

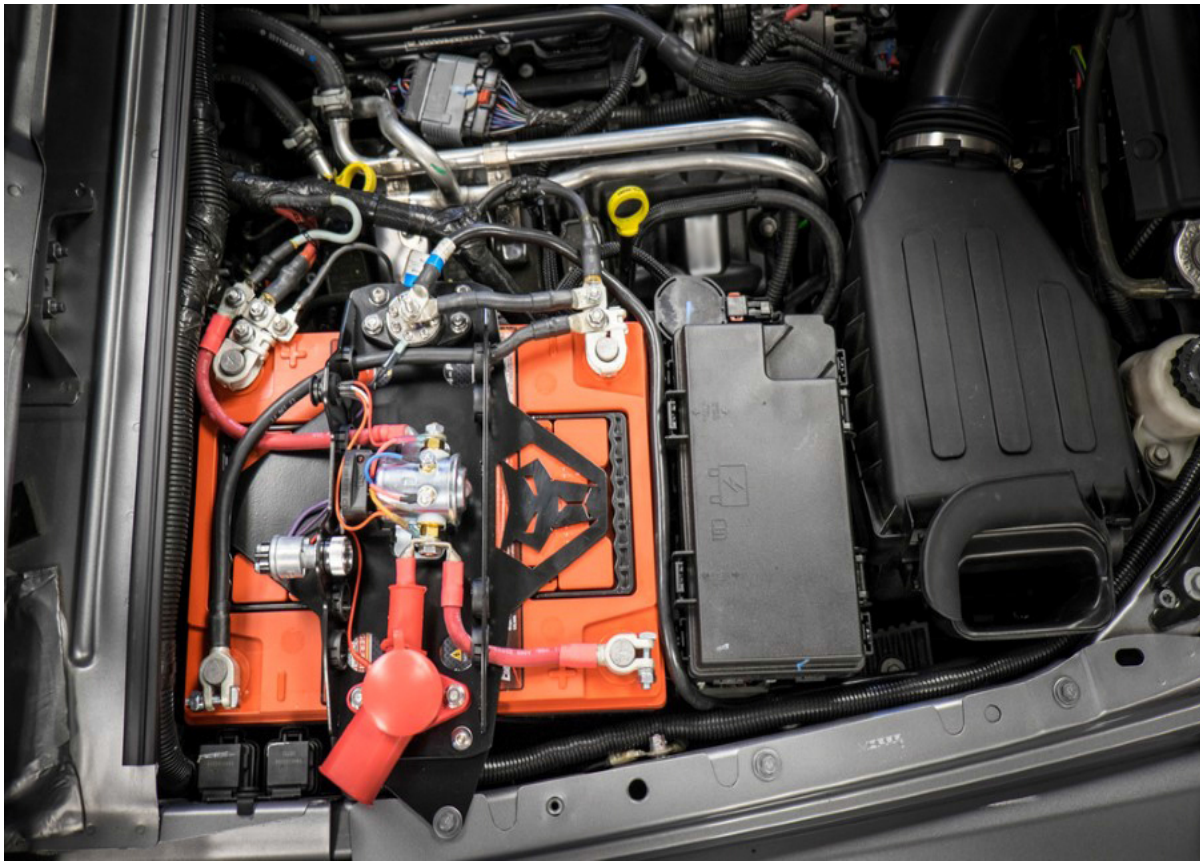
Your final installation in a 2007-11 JK should look like this.






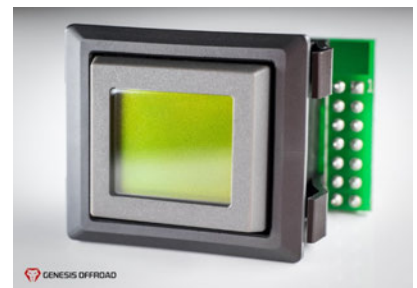
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Your final installation in a 2012+ JK should look like this.



Congratulations on installing your new dual battery kit!

Visit our website for info on the Genesis  Screen Dual Battery Monitoring System which can be installed at any time with a single cable connection.



If you're looking for quality Performance Starting & Charging products by Genesis Offroad, we've you covered.