



SDHQ Motorsports
190 S McQueen Rd
Ste 109 Gilbert, AZ 85233
www.SDHQoffroad.com

Product Packing List

Product: SDHQ-50-3002-U1

Description: Toyota Dual Battery Wiring Kit

_____ (1) SDHQ Toyota Cable Kit	SDHQ-50-3002-U1-CK
_____ (1) Hardware Package	SDHQ-50-3002-U1-HP
_____ (2) 2 - 0/2 Red Battery Boots	
_____ (23) 3/16" x 11 3/4" Zip Ties	
_____ (4) 5/16" x 15 1/4" Zip Ties	
_____ (1) 1/2" Loom Clamp	
_____ (4) #10 - 32 x 1/2" S.S. Button Head Flange Bolts	
_____ (4) 10 - 32 Allen Nuts	
_____ (1) 6 Pin ATM Connector with 1' Ground and 6' Remote Wire	
_____ (1) 6' of 1/8" Wire Loom	
_____ (1) 2" of 1/4" Heat Shrink	

Inspected and Packaged By: _____ Date: _____

For questions or help with the installation, please email help@sdhqoffroad.com
Store front hours: Mon. - Fri. 8:00am - 5:30pm and Sat. 9:00am - 2:00pm Arizona Time.

Included in SDHQ-50-3002-U1-CK:

- (1) 76" Positive 2GA Main Battery to Isolator
- (1) 24" Positive 2GA Auxiliary Battery to Isolator
- (1) 90" Negative 2GA Main Battery to Auxiliary
- (1) 43" Negative 4GA Auxiliary Battery to Frame
- (2) 16" Negative 6GA Battery to Body

SDHQ-02-3002-U1-A
SDHQ-02-3002-U1-B
SDHQ-02-3002-U1-C
SDHQ-02-3002-U1-D
SDHQ-02-3002-U1-E



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INSTALLATION INSTRUCTIONS

Product: *SDHQ-50-3002-U1*

Description: Toyota Dual Battery Wiring Kit



<u>Parts List</u>	<u>Hardware List</u>	<u>Required Tools</u>
(1) SDHQ Toyota Cable Kit SDHQ-50-3002-U1-CK (1) Hardware Package SDHQ-50-3002-U1-HP	(2) 2 – 0/2 Red Battery Boots (23) 3/16” x 11 3/4” Zip Ties (4) 5/16” x 15 1/4” Zip Ties (1) 1/2” Loom Clamp (4) #10 – 32 x 1/2” S.S. Button Head Bolts (4) #10 – 32 Allen Nuts (1) 6 Pin ATM Connector (1) 6’ of 1/8” Wire Loom (1) 2” of 1/4” Heat Shrink	Flat Head Screw Driver 10mm, 12mm Sockets 7/16”, 1/2”, 9/16” Sockets 3/8” Drive Ratchet 10mm Wrench 7/16”, 1/2”, 9/16” Wrench Pliers Heat Gun 1/8”, 3/16” Hex Drive Flush Cut Pliers

Tech Notes

Make sure all wiring is free from abrasion and pinching.

It is recommended to use a battery isolator between the batteries.

It is recommended the install is performed by qualified technicians.

Tundra/LC200/Sequoia owners can proceed to Page 7, Step 14 to begin the Tundra/LC200/Sequoia Wiring Instructions.
 For use with the SDHQ Dual Battery Kits (**SDHQ-52-3001-200**, **SDHQ-53-3001-G3**, **SDHQ-54-3001-G5**, **SDHQ-55-3001-G3**).

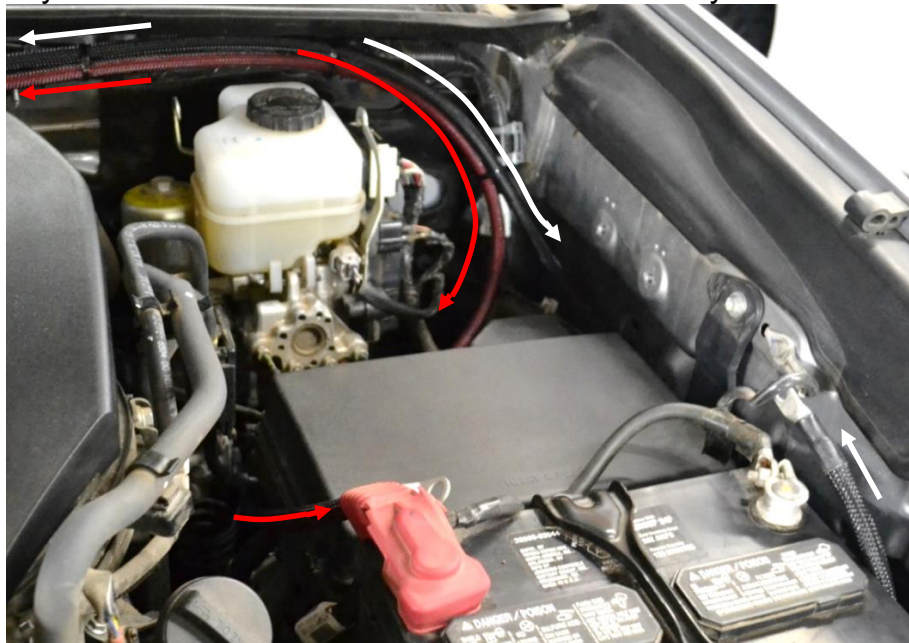
**** Connect all accessories to the main battery ****

Approx. Install Time: 3+ Hours

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Installation Instructions:

1. This is the wiring kit for the SDHQ Toyota Dual Battery Tray Kits. If that kit has not been installed, please begin there. Unbox the parts and verify all parts are accounted for. Steps 1 – 12 are for **Tacomas** and **4Runners**. Step 14 and beyond are for **Tundras** and **Land Cruisers**.
2. Disconnect the stock battery terminals using the 10mm and 12mm sockets. Remove the battery hold down and battery.
3. **Overview of Wire Routing.** The 76" Positive Main Battery to Isolator wire will run from the Positive Main Battery Terminal to a stud on your battery isolator. The 24" Positive Auxiliary Battery to Isolator wire will run from the Positive Auxiliary Battery Terminal to a stud on your battery isolator. The 90" Negative Main Battery to Auxiliary Battery wire will run from the Negative Main Battery Terminal to the Negative Auxiliary Battery Terminal. The 43" Negative Auxiliary Battery to Frame will run from the Negative Auxiliary Battery Terminal to the frame below the Auxiliary Battery. The 16" Negative Battery to Body wires will run from the Negative Battery Terminal to the body for both batteries.
4. **Routing Wires.** While running all wires, be mindful of the position the lugs are facing. The 76" Positive Main Battery to Isolator and 90" Negative Main Battery to Auxiliary Battery wires will follow a similar route across the firewall. Starting at the fender/firewall driver side corner the two wires will separate as shown below. The 76" Positive Main Battery to Isolator will run in front of the brake master cylinder and behind the fuse box (shown with RED arrows) to the Positive Main Battery Terminal. The 90" Negative Main Battery to Auxiliary Battery will run behind all of the accessories mounted on the fender towards the truck battery (shown with WHITE arrows). The other end of the wires will run along the firewall with the factory wiring harness. Use the supplied zip ties to secure the battery wires to the factory wiring harness. Leave the zip ties loose for now to allow for adjustments. Set the wire lugs near the Main and Auxiliary Batteries. It is recommended to run the wires such that the 90" Negative Main Battery to Auxiliary Battery is secured above the 76" Positive Main Battery to Isolator.



5. The 43" Negative Auxiliary Battery to Frame needs to be ran next. Set the 3/8" lug on the wire near the Auxiliary Battery. The 5/16" lug will need to be mounted on a brake line mount connected to the top of the frame, below the Dual Battery Kit. Pictured below is the 5/16" lug mounted to the brake line mount. This will be easiest to reach from the inner wheel well behind the rear rubber splash guard. Use zip ties to secure the cables.



6. The 16" Negative Battery to Body can be ran. This wire will connect to the Auxiliary Battery Negative Terminal and firewall as pictured below. Set the 3/8" lug on the wire near the Auxiliary Battery Negative Terminal. Connect the 1/4" lug on the wire to the firewall. This is a good location for the ground wire on your battery isolator as well.

Tacoma

4Runner



7. The second 16" Negative Battery to Body needs to be ran. This wire will replace the factory Main Battery to Fender Ground Wire circled in red to the right. Use a 10mm socket to remove the bolt connecting the factory wire to the fender. Set the 3/8" lug on the wire near the Main Battery Negative Terminal. Connect the 5/16" lug to the factory ground location on the fender reusing the factory bolt. This wire will loop around for convenience, similar to the 90" Negative Main Battery to Auxiliary, as shown with the arrows right.



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- Connect the 16" Negative Main Battery to Body, the 90" Negative Main Battery to Auxiliary Battery, any accessories and the factory ground wire to the Main Battery Negative Terminal.

Tacoma

4Runner



- Connect the 90" Negative Main Battery to Auxiliary Battery, 43" Negative Auxiliary Battery to Frame and 16" Auxiliary Battery to Body to the Auxiliary Battery Negative Terminal.
- Refer to the wiring diagram for your battery isolator for proper wiring. Pictures below are shown with a Blue Sea ML-ACR and SDHQ Terminals. Mount the Blue Sea with the provided #10 flange head bolts and nuts. With all of the ground wires ran and connected, slide (1) Red Battery Terminal Boot on the isolator side of the 24" Positive Auxiliary Battery to Isolator Wire. Connect this end of the wire to a stud on your battery isolator. Connect the battery end of the wire to the positive terminal on the Auxiliary battery. The top picture below is shown with a Group 34 Battery. Wiring will be reversed with Group 34R Batteries as shown bottom picture below.
- Slide (1) Red Battery Terminal Boot over the isolator side of the 76" Main Battery to Isolator Wire. Connect this end of the wire to the other stud on your battery isolator. Connect the battery end with any accessories to the Positive Main Battery Terminal.

Tacoma with Group 34 Battery

4Runner with Group 34R Battery



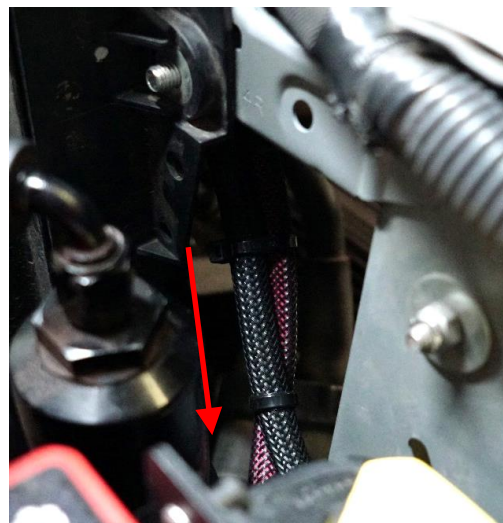
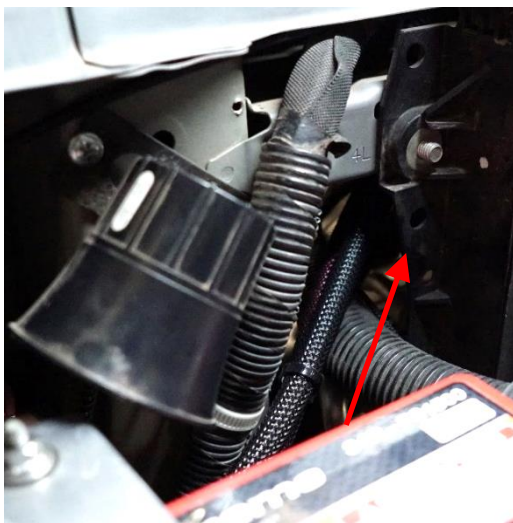
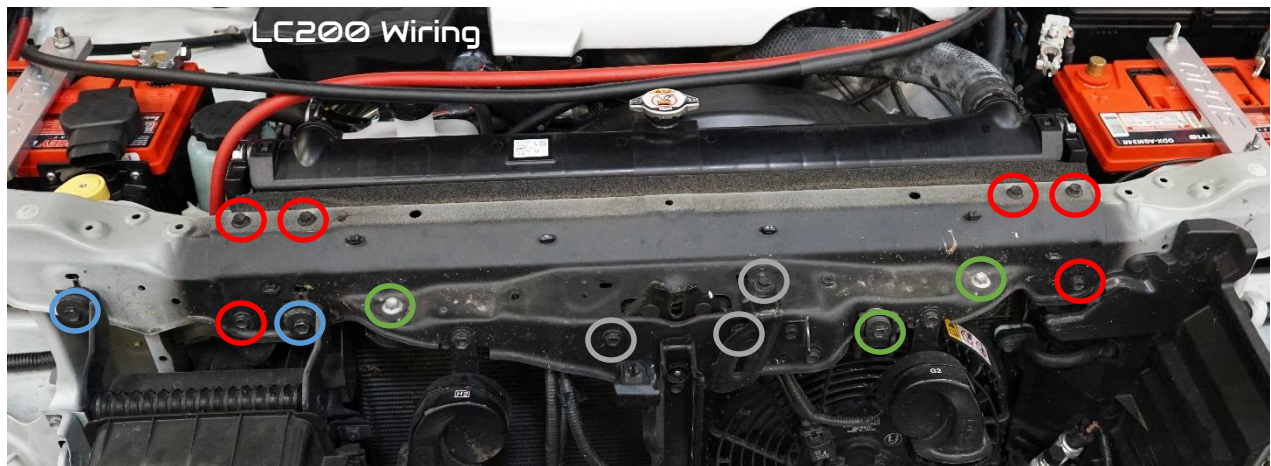
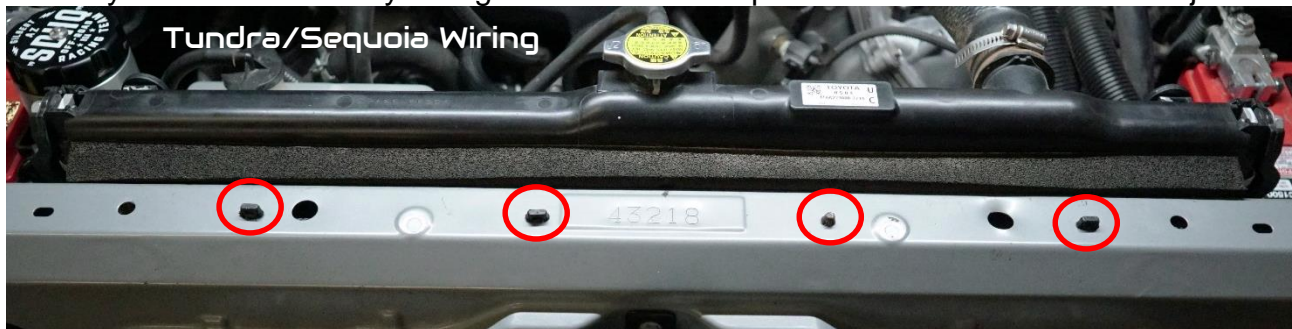
- Wiring the Blue Sea ML-ACR.** Install the 6' of 1/8" wire loom onto the 6' red wire, secure with the 2" of 1/4" heat shrink. Connect the 6 Pin ATM Connector to the connector on the Blue Sea ML-ACR. Connect the 1' ground wire to the same stud used in Step 6. Wire the red 18GA wire on the ATM Connector to a Switch Pros output or a switch for remote linking of the batteries.
- With everything connected, go back through the wiring and organize it as necessary. Tighten down all hardware and zip ties, securing all cabling. Installation is complete. Enjoy your new SDHQ Dual Battery Kit!

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14. Tundra and LC200 Wiring Instructions.

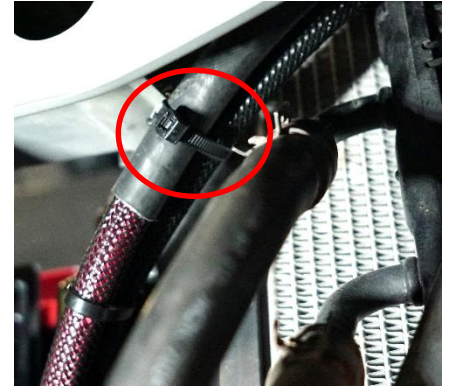
Overview of Wire Routing. See Step 3. While running all wires, be mindful of how the lugs are facing. The 76" Positive Main Battery to Isolator and 90" Negative Main Battery to Auxiliary Battery wires will follow a similar route in front of the radiator under the core support.

15. Routing Wires. For Tundras and Sequoias, start by dropping the factory harness from the top of the core support. To do this, clinch the plastic barbs circled below and push the harness down. For Land Cruisers, start by removing the (6) 10mm bolts on the top of the core support, (2) 10mm bolts for the transmission cooler, (3) 10mm bolts for the AC condenser and (3) 10mm bolts for the hood latch, all circled below in their respective colors. For ALL, on the driver side by the main battery, run both wires in front of the radiator as shown below left. Pull the wires through, in front of the radiator, to the passenger side, shown below right. Be cautious of any sharp edges that will damage the wire. Use the supplied zip ties to secure the battery wires to the factory wiring harness. Leave zip ties loose for now to allow adjustments.

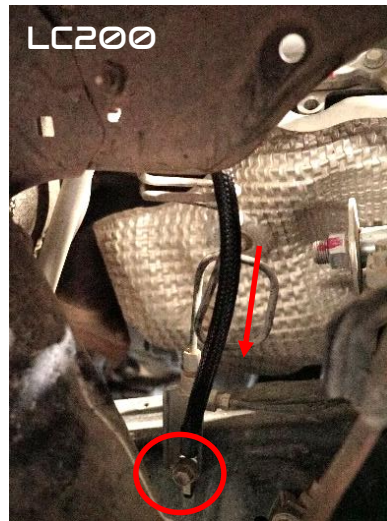
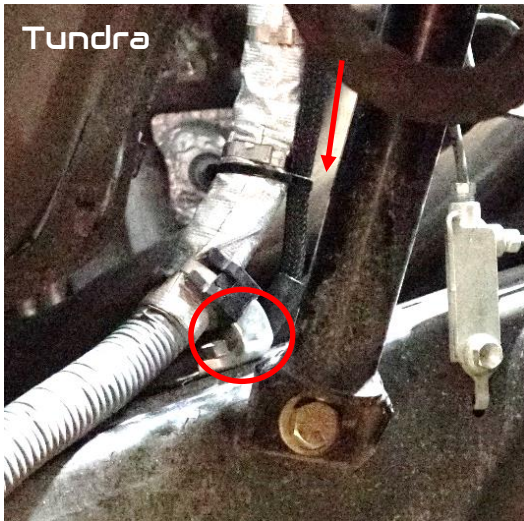


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16. Use (1) edge zip tie on the inside of the core support near both ends of the condenser to secure the wires from abrasion as pictured right. Leave the zip ties loose for now to allow for adjustments later. Set the wire lugs near the Main and Auxiliary Batteries. Passenger side edge zip tie shown right.



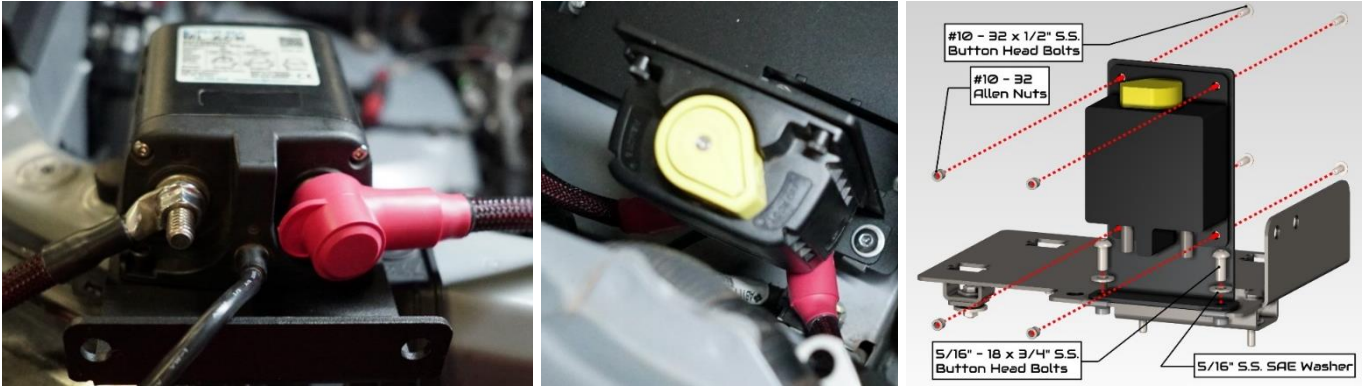
17. The 43" Negative Auxiliary battery to Frame needs to be ran next. Drop the 5/16" lug behind the coiled brake line as shown right. For Tundras, the 5/16" lug will be mounted on the factory wiring harness behind the passenger tire as shown below left. For Land Cruisers, the 5/16" lug will mount to the brake line bracket as shown below middle. Use zip ties to secure the cable. Secure the cable with a 1/2" Loom clamp with the factory 10mm bolt circled right. Leave the zip ties and Loom clamp loose now to allow for adjustment. Land Cruisers need to remove (4) clips to get behind the mud guard.



18. The 16" Negative Battery to Body can be ran. This wire will connect to the Auxiliary battery Negative Terminal and the top of the fender. Remove the 10mm nut circled in green above right. Place the 1/4" lug to the top of the stud and secure with 10mm nut.

Wiring is complete for now. Proceed to Step 13 in the Tundra Dual Battery Kit Installation Instructions (**SDHQ-53-3001-G3**) or Step 11 in the Land Cruiser Dual Battery Kit Installation Instructions (**SDHQ-52-3001-5200**).

19. Refer to the wiring diagram for your battery isolator for proper wiring. Pictures below are shown with a Blue Sea ML-ACR. Slide (1) Red Battery Terminal Boot on the isolator side of the 24" Positive Auxiliary Battery to Isolator Wire. Connect this end of the wire to a stud on your battery isolator. Slide (1) Red Battery Terminal Boot over the isolator side of the 76" Positive Main Battery to Isolator wire. Connect this end of the wire to your battery isolator. Mount the Blue Sea ML-ACR as shown below right.

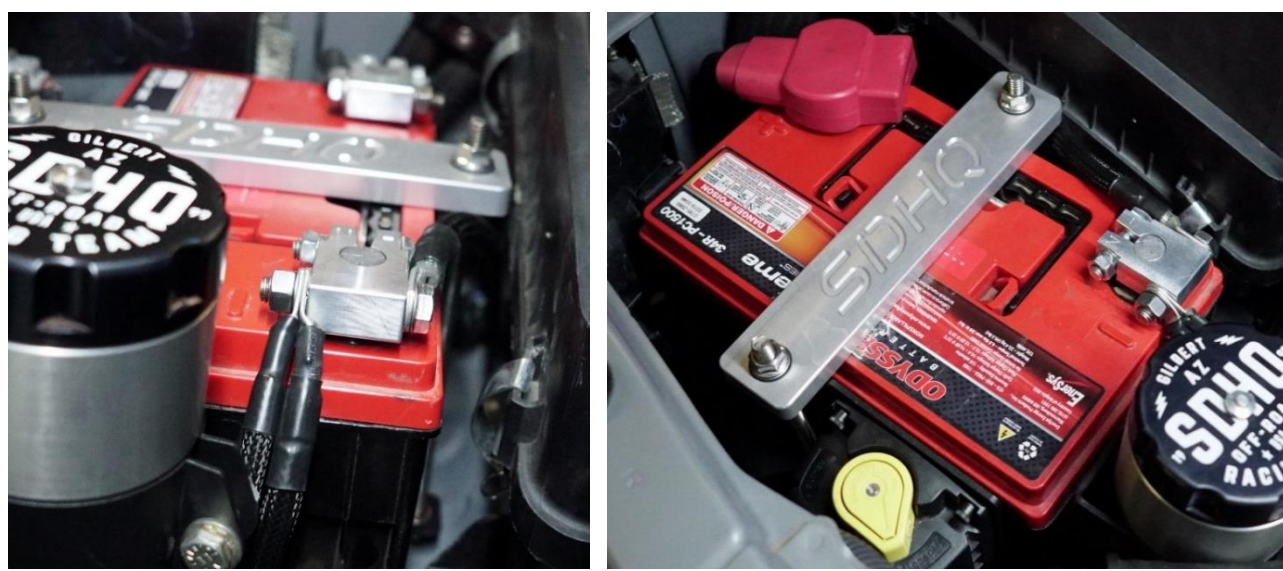


Proceed to Step 15 in the Tundra Dual Battery Kit Installation Instruction (**SDHQ-53-3001-G3**).

20. **Installing the Battery Terminals.** Install the SDHQ Billet Terminals (SDHQ-02-3003-T1) on the Auxiliary Battery. Install the SDHQ Billet Accessory Terminals (SDHQ-02-3003-T2) on the Main Battery. **Torque Specifications.** Torque the 1/4" – 20 bolts to 4 ft-lb. Torque the 5/16" – 18 bolts to 8 ft-lb. Torque the 3/8" – 16 hardware to 18 ft-lb.

21. **Finish Wiring.** Pull the Negative 90" Wire around the Auxiliary Battery until it reaches the negative battery terminal. Adjust this wire and pull it around the Main Battery until it reaches the negative battery terminal. Pull the Positive 76" Wire around the Main Battery until it reaches the positive battery terminal.

22. Connect the 90" Negative wire, 43" Negative Auxiliary Battery to Frame wire and 16" Negative Battery to Body wire to the Auxiliary Battery Negative Terminal. Connect the 24" Positive Auxiliary Battery to Isolator to the positive terminal on the Auxiliary Battery.



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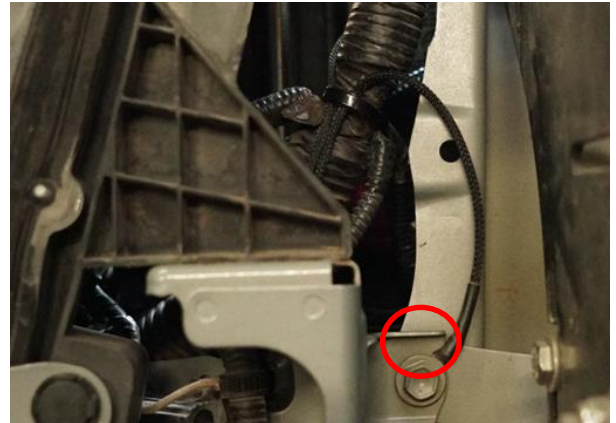
23. Use (1) edge zip tie and the 3" of door edge trim from the Dual Battery Kit (**SDHQ-52/53-3001-G3**) to secure the 90" Negative wire and 24" Positive Auxiliary Battery to Isolator from chaffing as pictured below. Use a heat gun to set the door edge trim.



24. Connect the 90" Negative wire, factory ground wire and any accessories to the negative terminal on the Main Battery. Connect the 76" Positive Main Battery to Isolator, any factory wiring and accessories to the positive terminal on the Main Battery.

25. Connect the 6 Pin Connector to the connector on the Blue Sea ML-ACR. Connect the 1' Ground Wire to the bolt by the passenger headlight. Wire the red 18GA wire on the Connector to a Switch Pros output of a switch for remote linking of the batteries.

26. Extra terminals are included for optional isolation and LED wiring. Please refer to the Blue Sea ML-ACR 7622 Wiring Diagrams for more information on the Isolation and LED Wiring Options.



27. There is an extra 16" Negative 6GA Battery to Body Wire in this kit left over. This wire is optional for Tundra/Land Cruiser owners. The factory wire will suffice if you do not want to cut the terminal off. Otherwise you can cut the factory wire off of the factory negative terminal and wire the extra 16" Negative Battery to Body wire. The 5/16" terminal will connect to the factory location on the fender. Connect the 3/8" terminal to the negative battery terminal.

28. With everything connected, go back through the wiring and organize it as necessary. Tighten down all hardware, and ensure all cables are secure with zip ties. Wiring is complete. Proceed to Step 20 in the Tundra Dual Battery Kit Install Instructions (**SDHQ-53-3001-G3**).

Double check all hardware is installed correctly and tight

Re-torque ALL bolts after 100 miles



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