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

Product Packing List

Product: *SDHQ-53-3041-XK70*

Description: 2022+ Tundra Hybrid Complete Under-Hood Power Solution Kit

_____	(1) Hybrid Under-Hood Power Mount	SDHQ-53-3041-XK70-PM
_____	(1) Complete Billet Battery Terminal Kit	SDHQ-02-3003-C2
_____	(1) Billet Positive Single Battery Terminal Kit	SDHQ-02-3003-T2P
_____	(1) Billet Terminal 500 Amp Fuse Kit	SDHQ-02-3003-F500
_____	(1) Copper Bolt-on Battery Post Kit	SDHQ-02-3003-CP1
_____	(1) Hybrid Terminal 1/0 Cable Kit	SDHQ-53-3041-XK70-WK10
_____	(1) Hybrid Terminal Hardware Kit	SDHQ-53-3041-XK70-TH
_____	(1) Install Tool Kit (Optional Add-on)	SDHQ-53-3041-XK70-TK

Inspected and Packaged By: _____ Date: _____

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- Included in the Hybrid Under-Hood Power Mount Kit SDHQ-53-3041-XK70-PM:

  - (1) Power Mount   SDHQ-53-3041-XK70-A
  - (1) Long Spacer   SDHQ-53-3041-XK70-B
  - (2) Short Spacer   SDHQ-53-3041-XK70-C
  - (1) Hardware Package   SDHQ-53-3041-XK70-HW
    - (3) M8-1.0 x 25mm Button Head SS Allen Bolts

- Included in the Complete Billet Battery Terminal Kit SDHQ-02-3003-C2:

  - (1) Billet Positive Battery Terminal   SDHQ-02-3003-T2-P-Rev2
  - (1) Billet Negative Battery Terminal   SDHQ-02-3003-T2-N-Rev2
  - (1) SDHQ Terminal Stud   SDHQ-02-3003-T2-A
  - (1) Hardware Package   SDHQ-02-3003-T2-B
    - (1) Positive Battery Protective Boot
    - (1) Negative Battery Protective Boot
    - (1) Red Post Washer
    - (1) Black Post Washer
    - (2) 5/16" - 18 x 1 ½" Battery Terminal Bolt
    - (2) 5/16" - 18 Battery Shoulder Nut
    - (6) ¼" - 20 x ½" S.S. Hex Head Bolt
    - (6) ¼" S.S. Washer
    - (2) 5/16" - 18 x 1" S.S. Hex Head Bolt
    - (2) 5/16" S.S. Washer
    - (2) 3/8" - 16 x 2" S.S. Hex Head Bolt
    - (4) 3/8" S.S. Washers
    - (2) 3/8" - 16 S.S. Nuts
    - (1) Small Tube of Anti-Seize

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- Included in the Billet Positive Single Battery Terminal Kit SDHQ-02-3003-T2P:

    - (1) Billet Positive Battery Terminal   SDHQ-02-3003-T2-P-Rev2
    - (1) Hardware Package   SDHQ-02-3003-T2P-HW
        - (1) Positive Battery Protective Boot
        - (1) Red Post Washer
        - (1) 5/16" – 18 x 1 ½" Battery Terminal Bolt
        - (1) 5/16" – 18 Battery Shoulder Nut
        - (3) ¼" – 20 x ½" S.S. Hex Head Bolt
        - (3) ¼" S.S. Washer
        - (1) 5/16" – 18 x 1" S.S. Hex Head Bolt
        - (1) 5/16" S.S. Washer
        - (1) 3/8" – 16 x 2" S.S. Hex Head Bolt
        - (2) 3/8" S.S. Washers
        - (1) 3/8" – 16 S.S. Nuts

- Included in the Terminal Bolt-on Fuse Kit SDHQ-02-3003-F500:

    - (1) 500 Amp Z-Case Fuse
    - (1) Electrical Insulator Sleeve
    - (1) 5/16-18 x 2.5" SS Hex Head Bolt
    - (1) 5/16-18 SS Hex Nut
    - (1) 5/16 SS AN Washer
    - (1) 5/16 SS Split Lock Washer

- Included in the Copper Battery Post SDHQ-02-3003-CP1:

    - (1) Copper Positive Battery Terminal Stud   SDHQ-02-3003-CP1-P
    - (1) Copper Negative Battery Terminal Stud   SDHQ-02-3003-CP1-N
    - (1) Hardware Package
        - (2) 5/16" – 18 x 1 ¼" Button Head Screw

- Included in the Hybrid Terminal 1/0 Cable Kit SDHQ-53-3041-XK70-WK10:

    - (1) 126" Red 1/0 Cable with 5/16" Lugs   SDHQ-02-3310-R126-55
    - (1) 124" Black 1/0 Cable with 5/16" Lugs   SDHQ-02-3310-B124-55
    - (1) 23" Red 1/0 Cable with 5/16" Lugs   SDHQ-02-3310-R23-55
    - (1) 26.5" Black 1/0 Cable with 5/16" Lugs   SDHQ-02-3310-B26.5-55

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- Included in the Hardware Package Kit
  SDHQ-53-3041-XK70-TH:

  - (1) Anti-rotate Bushing Washer   SDHQ-53-3041-XK70-D
  - (1) Cable Gland Alignment Washer   SDHQ-53-3041-XK70-CGW
  - (1) 1-1/4" Hole Cut Template   SDHQ-53-3041-XK70-FT
  - (1) 1-1/8" Hole Cut Template   SDHQ-53-3041-XK70-CT
  - (1) 1 oz. Tube of Elastomeric Marine Sealant
  - (2) Red M8 Threaded Copper Core Bushings
  - (2) Black M8 Threaded Copper Core Bushings
  - (2) PG21 Black Cable Glands
  - (2) M8-1.25 x 30mm Button Head Allen Bolts
  - (2) Red Low Profile Eyelet Terminal Insulators
  - (2) Black Low Profile Eyelet Terminal Insulators
  - (1) Red Battery Boot 2-2/0
  - (2) Black Battery Boot 2-2/0
  - (1) 1.109" ID O-Ring
  - (2) 1.266" ID O-Ring
  - (2) Toyota Silencer Clips
  - (20) 11" Standard Duty Zip Ties

- Included in the Install Tool Kit (Optional Add-on)
  SDHQ-53-3041-XK70-TK:

  - (1) 1-¼" Hole Saw
  - (1) 1-⅛" Hole Saw
  - (1) ⅛" Stubby Drill Bit
  - (1) 3/16" Stubby Drill Bit

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INSTALLATION INSTRUCTIONS

Product: *SDHQ-53-3041-XK70/PRO*

Description: SDHQ BUILT 2022+ Tundra Hybrid Complete Under-Hood Power Solution Kit

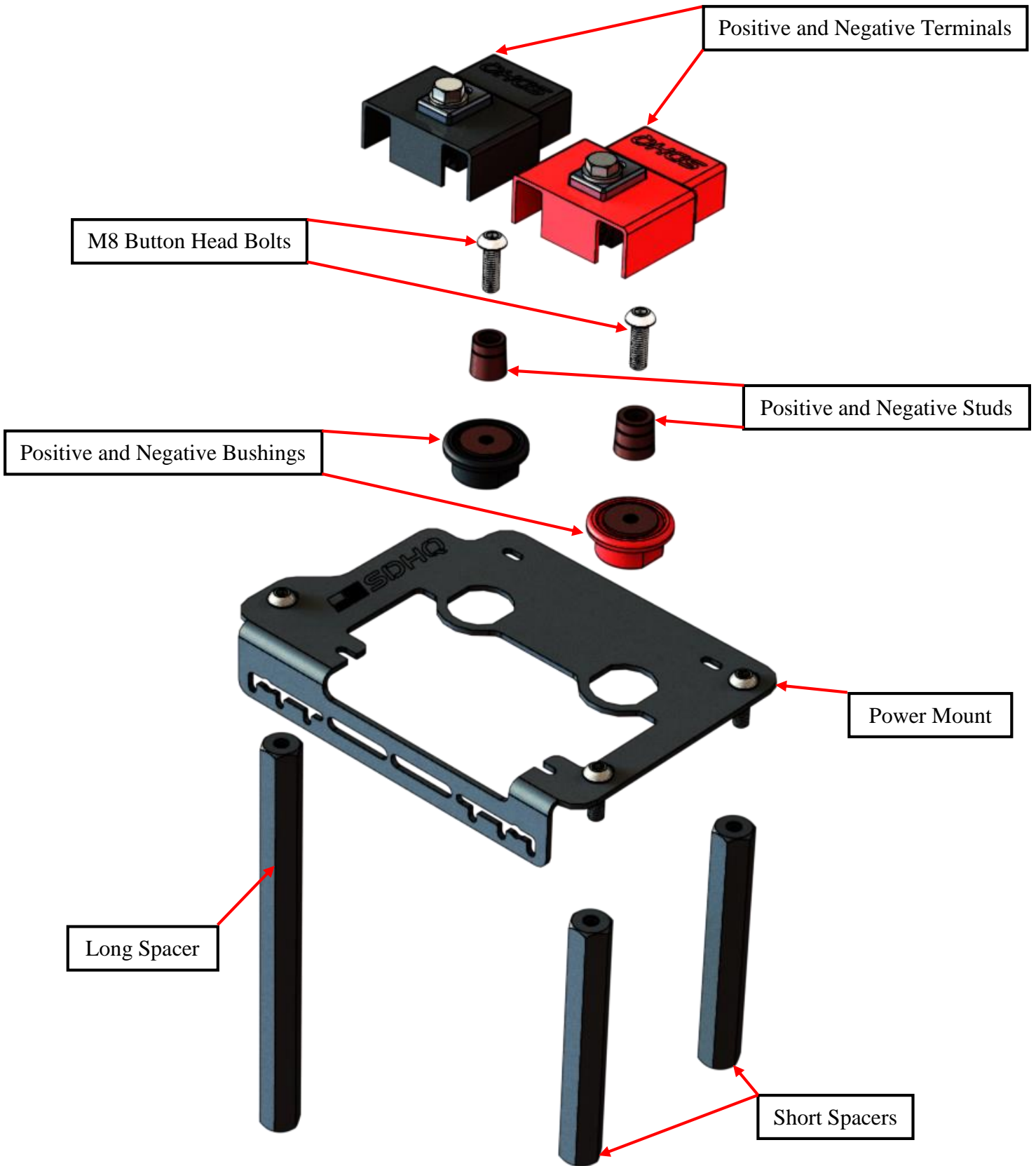| Parts List	Hardware List	Required Tools
(1) SDHQ Under-Hood Power Mount SDHQ-53-3041-XK70-A	(3) M8-1.0 x 25mm Button Head SS Allen Bolts	Plastic Pry Tools
(1) SDHQ Long Spacer SDHQ-53-3041-XK70-B	(1) 1 oz. Tube of Elastomeric Marine Sealant	Clip Removal Tools
(2) SDHQ Short Spacer SDHQ-53-3041-XK70-C	(2) Red M8 Threaded Copper Core Bushings	1-1/8" and 1-1/4" Hole Saws
(1) SDHQ Anti-rotate Bushing Washer SDHQ-53-3041-XK70-D	(2) Black M8 Threaded Copper Core Bushings	1/8" and 3/16" Stubby Drill Bits
(1) SDHQ Cable Gland Alignment Washer SDHQ-53-3041-XK70-CGW	(2) Black Cable Glands	10mm, 12mm, 14mm, 7/16", ½", 9/16", and ¾" Sockets
(1) SDHQ Copper Positive Stud SDHQ-02-3003-CP1-P	(2) M8-1.0 x 30mm Button Head Allen Bolts	Ratchet
(1) SDHQ Copper Negative Stud SDHQ-02-3003-CP1-N	(2) Red Low Profile Eyelet Terminal Insulators	6" and 3" Extension
(1) SDHQ Positive 1/0 Battery Cable SDHQ-02-3310-R126-55	(2) Black Low Profile Eyelet Terminal Insulators	5mm Allen Wrench
(1) SDHQ Negative 1/0 Battery Cable SDHQ-02-3310-B124-55	(2) Red Battery Boot 2-2/0	Center Punch
(1) SDHQ Negative 1/0 Battery Cable SDHQ-02-3310-B26.5-55	(2) Black Battery Boot 2-2/0	Drill
(1) SDHQ Positive 1/0 Battery Cable SDHQ-02-3310-R23-55	(1) 1.109" ID O-Ring	
(1) SDHQ 1-1/4" Hole Cut Template SDHQ-53-3041-XK70-FT	(2) 1.266" ID O-Ring	
(1) SDHQ 1-1/8" Hole Cut Template SDHQ-53-3041-XK70-CT	(2) Toyota Silencer Clips	
(2) SDHQ Billet Positive Terminal SDHQ-02-3003-T2-P-Rev2	(20) 11" Standard Duty Zip Ties	
(1) SDHQ Billet Negative Terminal SDHQ-02-3003-T2-N-Rev2	(1) 500 Amp Z-Case Fuse	
(1) SDHQ Terminal Stud SDHQ-02-3003-T2-A	(1) Electrical Insulator Sleeve	
	(1) 5/16-18 x 2.5" SS Hex Head Bolt	
	(1) 5/16-18 SS Hex Nut	
	(1) 5/16 SS AN Washer	
	(1) 5/16 SS Split Lock Washer	
	(2) 5/16" – 18 x 1 ¼" Button Head Screw	
	(2) Positive Terminal Protective Boot	
	(1) Negative Terminal Protective Boot	
	(2) Red Post Washer	
	(1) Black Post Washer	
	(3) 5/16" – 18 x 1 ½" Battery Terminal Bolt	
	(3) 5/16" – 18 Battery Shoulder Nut	
	(9) ¼" – 20 x ½" S.S. Hex Head Bolt	
	(9) ¼" S.S. Washer	
	(3) 5/16" – 18 x 1" S.S. Hex Head Bolt	
	(3) 5/16" S.S. Washer	
	(3) 3/8" – 16 x 2" S.S. Hex Head Bolt	
	(6) 3/8" S.S. SAE Washer	
	(3) 3/8" – 16 S.S. Nuts	
	(1) Small Tube of Anti-Seize	

Tech Notes

Approx. Install Time: 2-3 Hours plus any additional wiring

***READ ALL INSTRUCTIONS THOROUGHLY FROM START TO FINISH BEFORE BEGINNING INSTALLATION! ***

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CAD Rendering/Exploded Views

Positive and Negative Terminals

M8 Button Head Bolts

Positive and Negative Studs

Positive and Negative Bushings

Power Mount

Long Spacer

Short Spacers

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Installation Instructions:

1. Unbox your SDHQ Built Hybrid Tundra Complete Under-Hood Power Solution Kit and verify all parts are present.

2. Remove the plastic panel under the rear seats to reveal the vehicle's battery. Disconnect the negative battery terminal from the battery, then disconnect the positive battery terminal. Insulate the battery from the terminals to prevent damaging the vehicle electronics.

3. Remove the plastic panel on the front of the battery compartment by pushing the center of the clips in and then removing the clips. Remove the sill plate from the rear driver side door frame by pulling around the edges of the plate if needed plastic pry tools can be used.

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4. Remove the plastic panel on the side of the battery compartment by pushing the center of the clips in and then removing the clips, then pulling on the corner of the panel towards the front of the truck. Remove the air duct from behind the panel by removing the two clips shown with red circles and pulling it toward the front of the truck.

5. Remove the sill plate from the front driver side door frame by pulling around the edges of the plate if needed plastic pry tools can be used. Remove the kick panel from the driver side, by removing the plastic nut circled in red and pulling the panel by the door frame to release the clips.

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6. Remove the plastic cover for the driver's seat belt lower mount and remove the bolt retaining the seat belt using a 14mm socket.

7. Pull the weather-stripping for the front and rear driver side door frames back to allow for the removal of the lower B-pillar plastic panel.

8. Remove the lower B-pillar plastic panel by pulling on the edges of the panel to release the clips. Push the weather-stripping back onto the pinch weld to prevent damage.

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9. Pull back the carpet under the dash starting from the left corner to reveal foam and insulation. Pry on the tabs of the clip circled in red, there are two of these clips, pry the tabs up and remove the foam piece. Remove the clips by prying or cutting them out, do not worry about damaging these as there are replacement clips provided in the kit.


10. Fold the insulation to allow for it to be pulled back with the carpet to reveal the sheet metal beneath.

11. Remove the fender liner from the front driver side wheel well, using a 10mm socket and a clip removal tool. There are (20) 10mm bolts and (8) plastic clips to be removed, then remove the fender flare by pulling gently on the edges of the flare to release it. Remove the fender liner once the flare is off the vehicle.
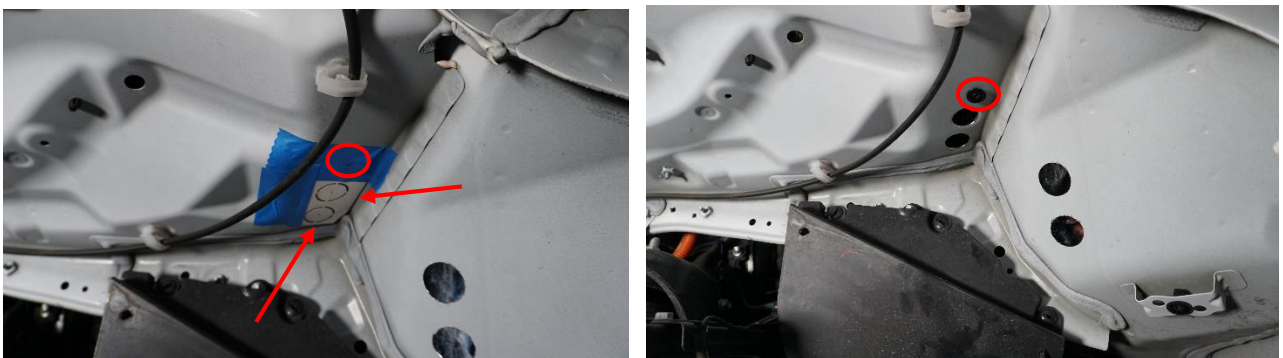
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12. Place the 1-1/4" hole cut template in as shown using the two studs to ensure proper alignment. Use a marker to mark the drilling location and a center punch to mark the location for drilling.
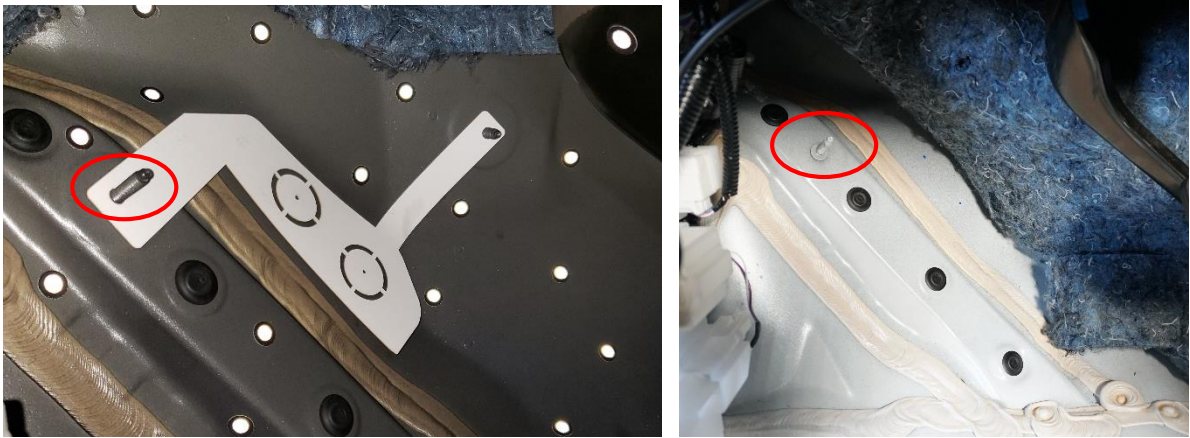
13. Use the 1/8" drill bit to drill a pilot hole, then use the 3/16" drill bit to enlarge the pilot hole. Lastly use the 1-1/4" hole saw to drill through the floor pan.


14. Place the 1-1/8" hole cut template in as shown using the fender liner bolt location circled in red and the edge arrowed in red as an alignment guide. Drill using the 1/8" drill bit to drill a pilot hole, then use the 3/16" drill bit to enlarge the pilot hole. Lastly use the 1-1/8" hole saw to drill through the core support.

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15. Install one of the (2) 1.266" ID O-rings onto (1) red copper core bushing and the other onto (1) black copper core bushing.

16. Install (1) of the red copper core bushings into the top hole in the floor pan. Install (1) of the black copper core bushings into the lower hole in the floor pan. Install the anti-rotate bushing washer onto the red and black bushings and thread the bushing nuts on to secure the bushings. Use the tube of elastomeric marine sealant on the outside of the bushings to seal the cab.
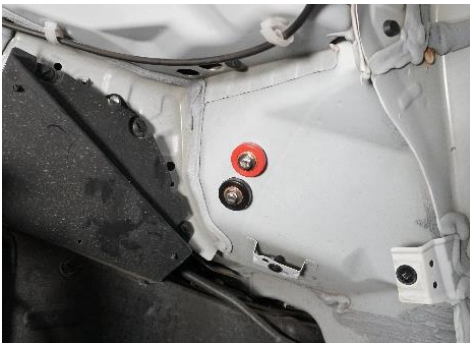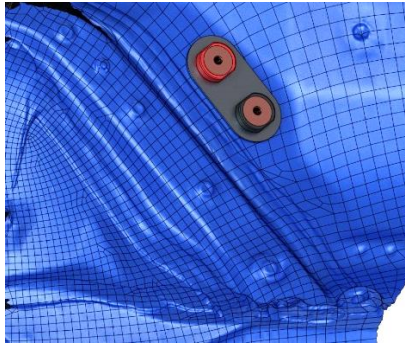
OUTSIDE   INSIDE   INSIDE

17. Install (1) red low profile eyelet terminal insulator on to the positive cable end to cover the connection to the red bushing. Install (1) black low profile eyelet terminal insulator on the negative cable end to cover the connection to the black bushing. Attach the positive cable to the red bushing and the negative cable to the black bushing using a 13mm socket for the M8 hardware.

18. Route the 126" red 1/0 and 124" black 1/0 cables from the floor pan bushings to the battery compartment, use zip ties to retain cables. It is recommended to place the negative cable under the positive cable for better routing. DO NOT CONNECT CABLES TO BATTERY. Route the cables along the edge of the cab over the top of the factory wiring harness. Routing for the cables into the battery compartment to make a bend shown below, this routing allows the cables to not interfere with the plastic panels.

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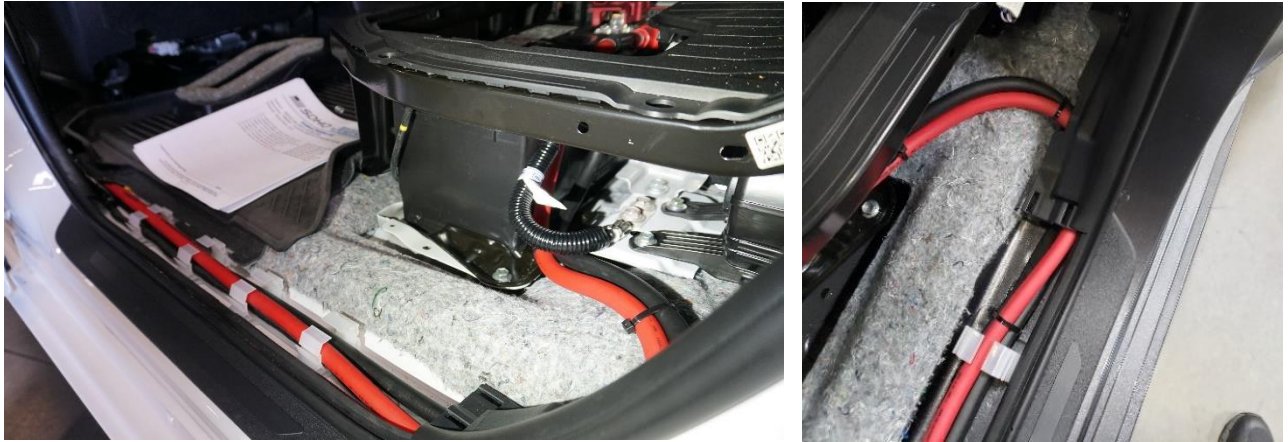
19. Remove the closure nuts on the black cable glands. Install the black cable glands, (1) on the 23" red 1/0 cable and (1) on the 26.5" black 1/0 cable. Install the 3D-printed cable gland alignment washer over both cables and install the closure nuts back on to the black cable glands.


20. Place the cable gland on the 23" red 1/0 cable at approximately 5" from the end of the cable. Place the cable gland on the 26.5" black 1/0 cable at approximately 7" from the end of the cable. The distance is shown, measure from the eyelet to the end of the cable gland.

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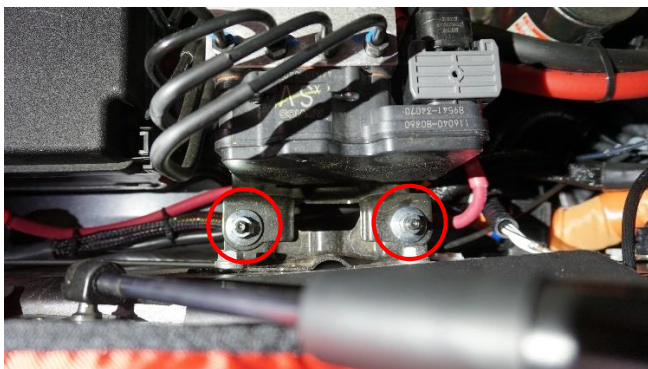Page **13** of **18**

21. Install the 1.109" ID O-ring on to the negative cable gland to allow for the cable gland alignment washer to install level. Install this assembly into the engine bay and put the cable ends through the holes cut into the core support. The positive cable is fed through the hole closer to the fender. Thread on the retaining nuts to secure the cable glands in place.
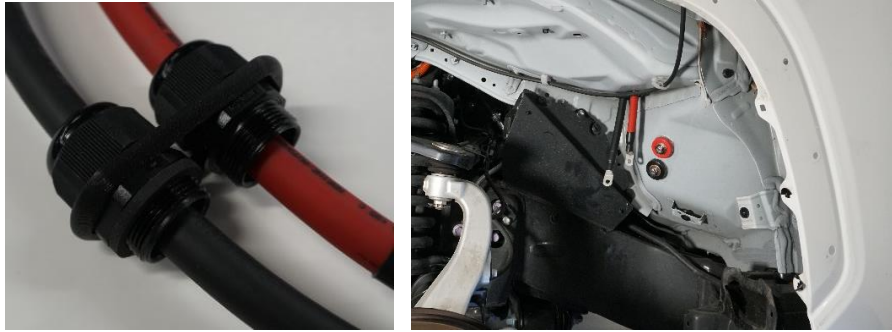
22. Install (1) red low profile eyelet terminal insulator on to the positive cable end to cover the connection to the red bushing. Install (1) black low profile eyelet terminal insulator on the negative cable end to cover the connection to the black bushing. Secure the positive and negative cables to the bushings with the M8 hardware on the bushings using a 13mm.
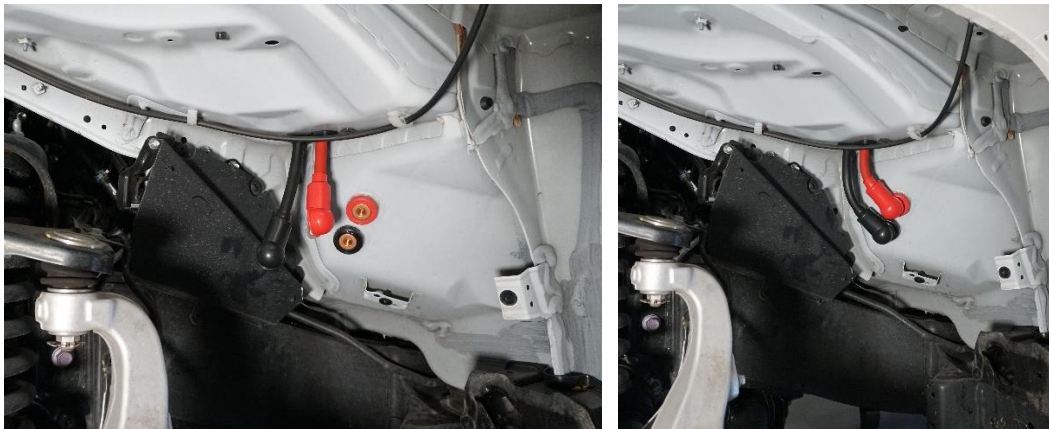

23. Locate the ABS module found on the driver side of the engine bay, should be near where the cables are run through the core support. Using a the 12mm socket remove the (3) nuts from the studs shown circled below, set these aside as they will not be reused.

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24. Install the (2) short spacers on the studs outboard of the ABS module circled in red. Install the (1) long spacer on the stud on the other side of the ABS module circled in blue. Can be tightened with ¾" Socket or wrench.

25. Install (1) of the red copper core bushings into the left hole in the power mount. Install (1) of the black copper core bushings into the right hole in the power mount. Pause to install any desired accessories to the power mount at this time.
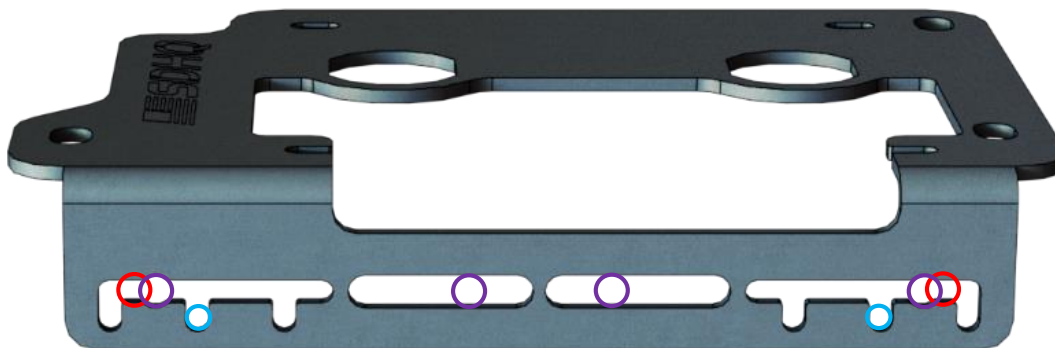
Red Circle: Switch Pros RCR-12   **Blue Circle**: Switch Pros 9100
Purple Circle: Garmin PowerSwitch

Note: 9100 can be moved to the left or right of slot shown above, PowerSwitch can be mounted on left or right side of mount.

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26. Install (1) standard red battery boot on the positive cable end that is in the engine bay. Install (1) standard black battery boot on the negative cable end that is in the engine bay. Place the power mount over the spacers and flip it over to allow for access to the bottom of the bushings. Connect the positive and negative cables to the bushings using the M8 hardware.

27. Place power mount plate on top of the spacers. Using a 5mm allen wrench install the supplied (3) M8 button head allen bolts to secure the power mount plate.

28. Remove the M8 hardware from the top of the red and black bushings on the power mount and set aside as this will not be used. Locate 02-3003-CP1 and install the copper positive terminal stud onto the red bushing and using a 5mm allen wrench to install the M8 button head bolt. Install the copper negative terminal stud onto the black bushing and using a 5mm allen wrench to install the M8 button head bolt.

1 Line   2 Lines

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29. Refer to the complete billet battery terminal kit (SDHQ-02-3003-C2) install instructions to assemble the (2) positive terminals and (1) negative terminal. Refer to the billet battery terminal fuse kit (SDHQ-02-3003-F500) Install Instructions to add the fuse to the rear positive terminal. Install (1) positive terminal on the copper positive stud and the (1) negative terminal on the copper negative stud. Recommend if connecting a Switch Pros Module, to connect the positive wire to the ¼" bolt on the rear of the terminals circled in blue for wire routing.

30. Remove the stock positive terminal from the factory wiring harness using a 12mm socket. Install (1) normal red battery boot onto the end of the positive cable in the battery compartment. Attach the positive cable to the fused bolt on the positive terminal. Attach the billet terminal to the factory wiring harness using the 5/16" bolt on the top of the terminal.

31. Install (1) normal black battery boot onto the end of the negative cable in the battery compartment. Using a 12mm socket remove the nut from the negative battery terminal. Attach the negative cable to the stud when ready to power up and tighten.
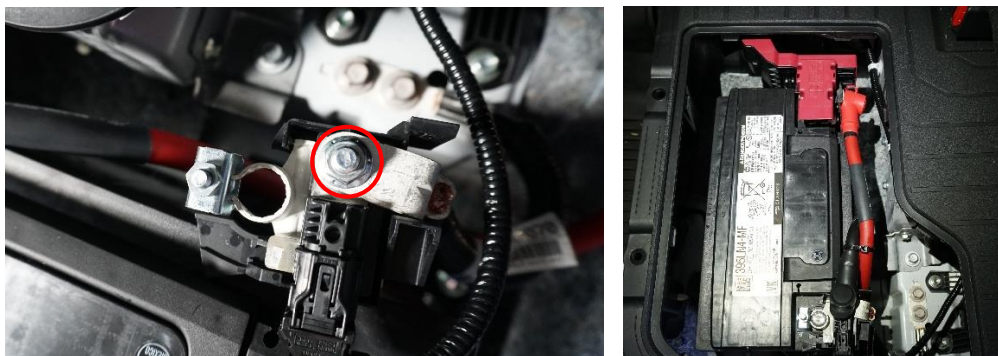
32. Reconnect the battery and use a multi-meter to determine if there is power at the terminals in the engine bay. Install the battery terminal boots onto the terminals in the engine bay. Reinstall the Interior pieces, refer to previous steps. Reinstall the Fender-liner, refer to previous step.

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33. Trim the red battery terminal boot for the terminal in the battery compartment as shown to allow it to be installed.

34. Installation is complete enjoy your SDHQ Built Hybrid Complete Under-Hood Power Solution for your Toyota Tundra.

Double check all hardware is installed correctly and tight

Re-torque ALL bolts after 100 miles

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