



GENESIS

O F F R O A D

Toyota Tundra Dual Battery System

182-TTUDBK



Installation Instructions for 2007+ Toyota Tundra



Before you Begin

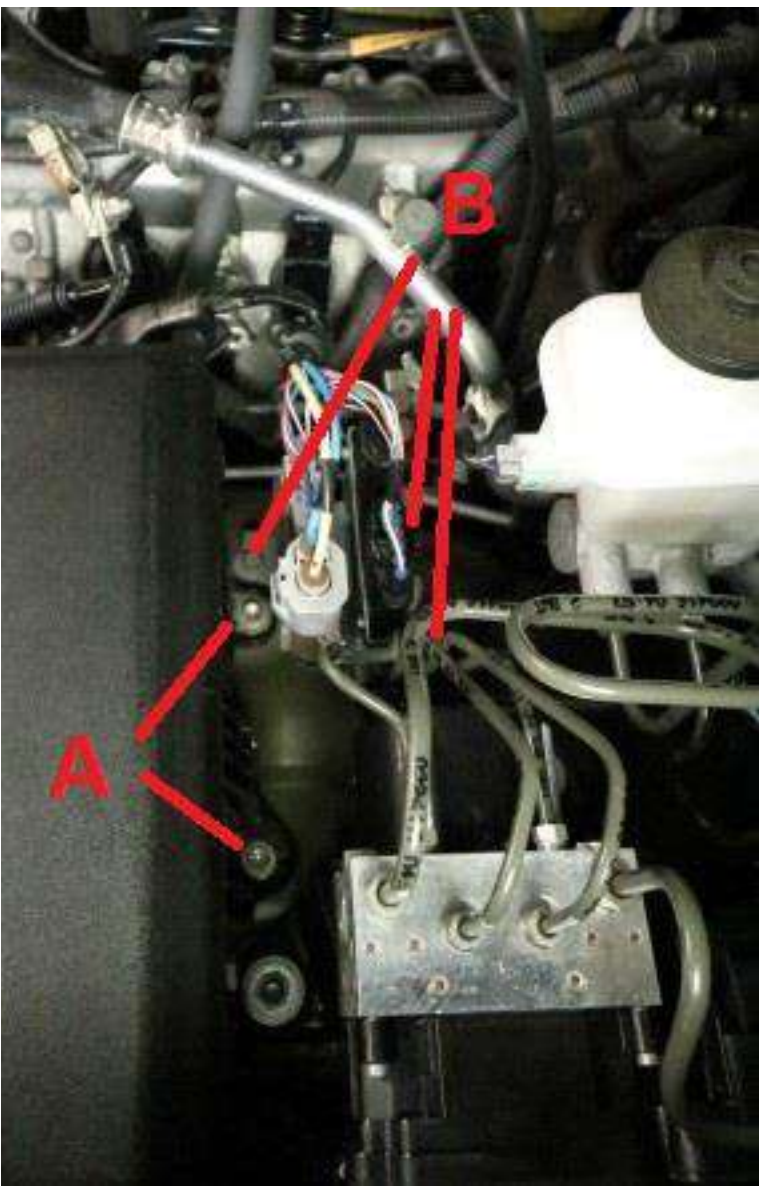
Please read through these instructions thoroughly. To avoid mistakes and lost time, follow the sequence shown. Leave the battery posts covered during installation to avoid accidentally shorting out the batteries.

Parts List	Qty	Tools Needed
Battery Tray	1	7/16", ½" socket/wrench
Top Plate	1	10, 12mm socket/wrench
Smart Isolator	1	Ratchet with extension
High Amp Power Bus Bar	1	Center punch
Ground Bus Bar	1	25/64" Drill bit
Dust Cover	1	Touchup paint
Wiring Harness	1	
½" Lid Bolts	4	
Nutserts	4	
7/16" Stainless Bolts/Washers	4	
Fuse Box Relocation Tabs	5	
10mm Bolts	5	
Nutsert install hardware:	1	
Grade 8 Bolt, 7/16"		
Grade 8 Thick Washer		
Serrated Flange Nut, ½"		



1. Use a 10mm socket to loosen the factory battery post clamp bolts and the hold down bracket.

2. Remove the factory battery and the plastic battery tray.



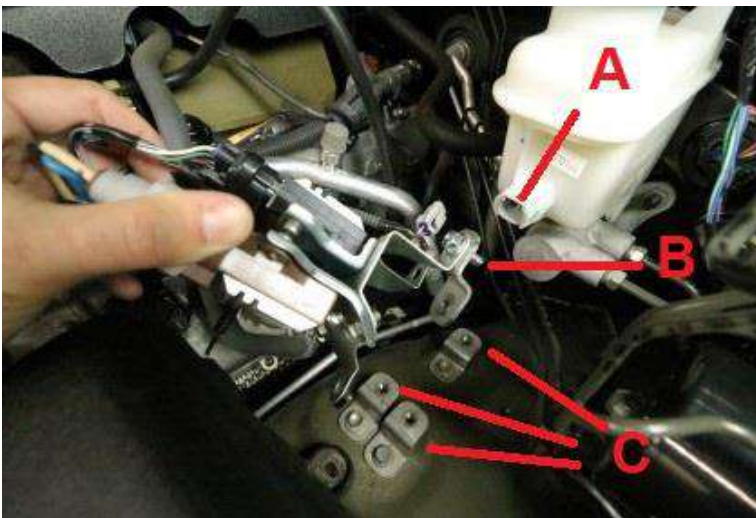
3. The fuse box and the electrical connectors need to be moved backwards towards the firewall using the provided stainless relocation tabs. This will allow the batteries to clear the headlights.

Remove 2 10mm bolts from the front side of the fuse box (not shown here) and 2 more from the rear of the fuse box (A).

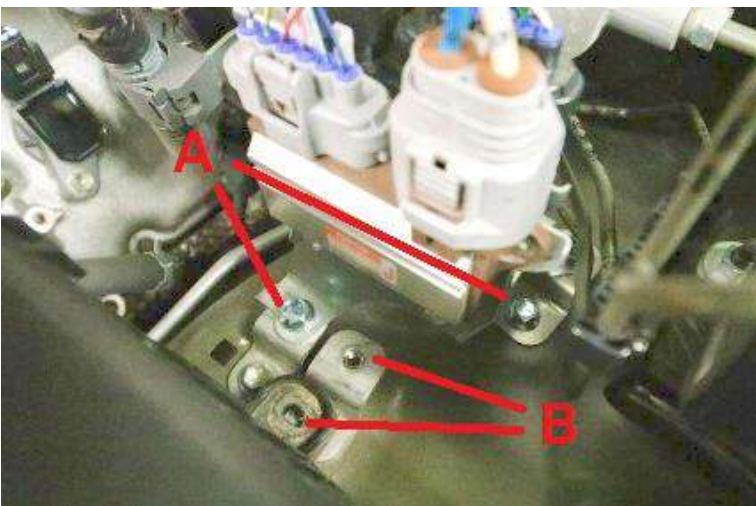
Also remove 3 bolts holding the small bracket with the electrical connectors just behind the fuse box (B).



4. Use a pry tool to pop loose a couple retaining clips holding the wire harness that goes into the fuse box. This will give the wire harness a little slack needed to move the fuse box backward.

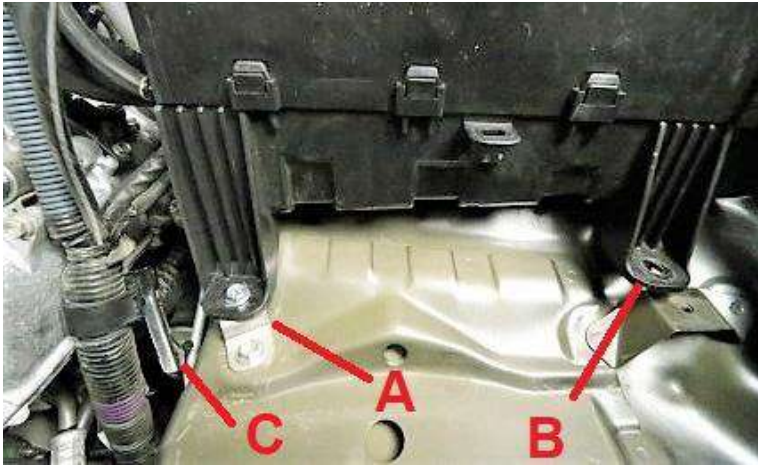


5. Pull the fuse box forward for easier access behind it. Disconnect the connector from the brake fluid reservoir to get it out of the way (A). Attach a relocation tab to the front corner of the electrical connector bracket as shown using the provided 10mm bolt (B). This bolt will be difficult to reach in its new location. Install 3 more relocation tabs using the stock hardware (C).



6. Use 3 provided 10mm bolts to secure the stock bracket onto the relocation tabs (A), then reattach the connector to the brake fluid reservoir.

Carefully push the fuse box backwards and loosely secure it to the relocation tab (B). Wait to tighten it until after installing the front side.



7. Install the last relocation tab on the front side of the fuse box (A). **Note** the relocation tab does not have to be perfectly straight from front to back.

The other side of the fuse box will not be attached. This will allow the new battery tray to slide under the fuse box leg slightly (B).

Remove this 10mm bolt (C) to gain some slack on the positive wires.



8. Drop in the new tray. The corner may tuck under the fuse box leg slightly. The front edge should clear the radiator easily. The right side should clear the engine block by about ¼". The factory wires at the front corner should easily clear the bottom of the tray.



9. Make sure you have the protective caps on your battery posts, then place the aux battery in the tray and slide it all the way towards the fender.



10. Place the main battery in the tray, and make sure they are both sitting flat on the bottom of the tray.



11. Shift the tray around as needed to ensure you have clearance by the engine, the radiator, and the back of the headlights.



12. Since there are no factory mounting points to use for reference, make a few alignment marks with a pen. Then carefully remove the main battery. Use one hand to hold the tray still and slide the aux battery sideways to remove it as well.



13. Make sure the tray is still in the proper location using your alignment marks, then use a center punch tool to mark the center of the holes in the legs to be drilled.



14. Drill the 4 holes with a small pilot hole first, then use a **25/64"** drill bit. It is critical to use the correct size bit so the nutserts will seat properly. Do not drill the holes oversized.



15. Clean up the metal shavings with a vacuum, then cover the bare steel with a paint pen to prevent rust.



16. Use the provided hardware to install the nutserts. Use a 1/2" wrench to hold the flange nut still while tightening the grade 8 bolt with a 7/16" socket into the nutsert. It will initially be difficult to get the bolt started, then once the nutsert starts to compress it will be easier to tighten. You should feel the nutsert bottom out against the sheet metal when fully installed.



17. Drop the new tray in place. Install the 4 stainless bolts and large washers through the holes in the tray. Secure with a 7/16" socket with an extension. Note the holes in the tray are slightly oversized to compensate for minor misalignment of the nutserts.



18. Reinstall the aux battery first and slide it towards the fender. Then install the cranking battery. The posts should be towards the outside corners. Double check your clearance on all sides. If necessary, you can remove the batteries, loosen the 4 bolts, and adjust the tray slightly.



19. Make sure your battery posts are covered, then set the top plate down on the batteries, with the lion head logo facing forward. Before connecting any wires, secure the top lid down using the 4 provided serrated flange bolts with a $\frac{1}{2}$ " wrench. Do not overtighten.



20. Attach the aux battery positive post clamp. Be sure the clamp is fully seated to the bottom of the post, then tighten with a $\frac{1}{2}$ " wrench.



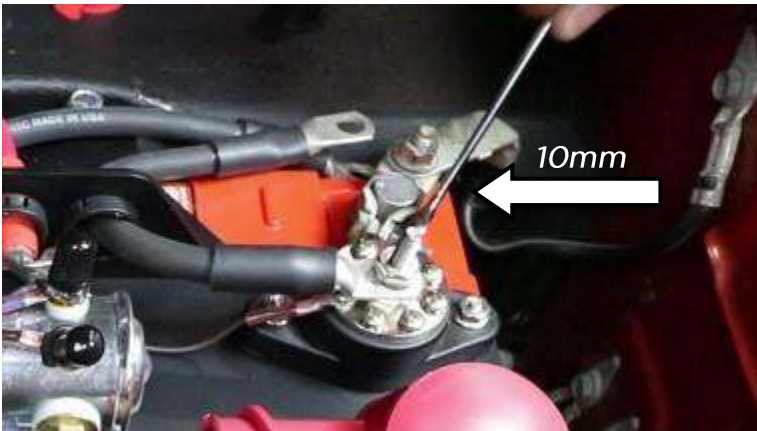
21. The factory positive post clamp may be difficult to lift over the battery post. Loosen the 12mm nut on top to gain some slack. Secure the post clamp using a 10mm wrench. Now remove the 12mm nut, attach the new positive wire, and reinstall the 12mm nut.



22. To reuse the factory positive post cover, you can use a razor blade to notch the side of the cover around the new red wire.



23. Attach the cranking battery's negative post clamp. Be sure it is seated all the way to the bottom of the post, then tighten with a 1/2" wrench.



24. Attach the factory negative post clamp onto the aux battery. Wait until after the next step to tighten the clamp with a 10mm wrench.



25. Remove the 12mm nut from the post clamp, then attach the short ground wire from the ground bus bar. Next attach the longer ground wire coming from the other battery's negative post. Reinstall the 12mm nut to secure these 2 wires.



Final installation. Ensure all post clamps are tight.

Smart Isolator Specifications

- The batteries will be automatically connected together when either battery is above 13.2v (plus or minus 0.1v) for 2 minutes.
- Batteries will be isolated when they drop below 12.7v (plus or minus 0.1v) for 1 minute.

Caution - the silver solenoid may be hot while the batteries are connected.

This is completely normal, and not a cause for concern.

Characteristic	Min	Typical	Max	Notes
Normal input voltage	9v		16v	Unit functions within this range
Continuous current		200 A		750 A inrush
Connect voltage		13.2v		After 2 minutes at this level
Disconnect voltage		12.7v		After 1 minute at this level
Quiescent current		5mA	8mA	Relay off, start signal input open or grounded.
Operating temp range	-40 C		+85 C	
Ingress protection		IP65		Per IEC
Vibration, Shock				Per SAE J1455
EMI/RF				Per SAE J1455 & J1113

Boost Button

- The momentary push button allows you to manually connect the batteries.
- If the cranking battery is too low to start the engine, press the boost button one time to connect the batteries, aux helps start the engine, if it has enough power.
- The boost feature requires 9.0v on the cranking battery to link the batteries together. If the cranking battery is below 9.0v, you can manually link the batteries together with jumper cables, or swap positions of the batteries.

Connecting Accessories

- Connect high-amp accessories (winch, stereo amp, etc) to the large center studs on the power and ground bus bars.
- Connect low-amp accessories (LED lights, CB, etc) to any of the 8 small screws on the power and ground bus bars.
- All accessories on the power and ground bus bars will be powered from the aux battery when the smart isolator separates the batteries. This prevents your accessories from draining the cranking battery.

Connecting Jumper Cables, Trickle Chargers, or Solar Panels

- Jumper cables can be connected to the factory positive (on cranking battery) and the factory negative (on aux battery). This gives you the most direct path to the alternator and starter for maximum efficiency.
- Connect trickle charger or solar panels the same way. It will charge your cranking battery first, then link the batteries together and the trickle charge will flow through the isolator to charge the aux battery. See Smart Isolator functions above.

Expand your system with these great options!

G Screen Monitoring System

This 1" LCD can be added at any time. Simply plug the harness into the port on the lid, no wiring required.

- Dual battery voltage display
- In-cab Boost feature
- Isolator status -
 - Boost On = batteries connected
 - Boost Off = batteries isolated
- Air Pressure Monitoring (sensor kit sold separately)



Digital Air Pressure Sensor

Turn your G Screen into an air pressure gauge.

- Sensor screws into an on-board air tank
- Single wire harness plugs into G Screen
- Instantly adds new PSI screen
- No air hoses to run or wiring to figure out



Aux Power Outlets

Add an extra 12v outlet or dual USB charging outlets where you need them.

- 12v outlet is great for powering a fridge - connect to the power and ground bus bars to protect your cranking battery
- Dual USB outlets are perfect for charging phones, iPads, cameras, etc.
- Kit includes one outlet and a 20' wire harness with 20 amp in-line fuse and high-quality terminals

