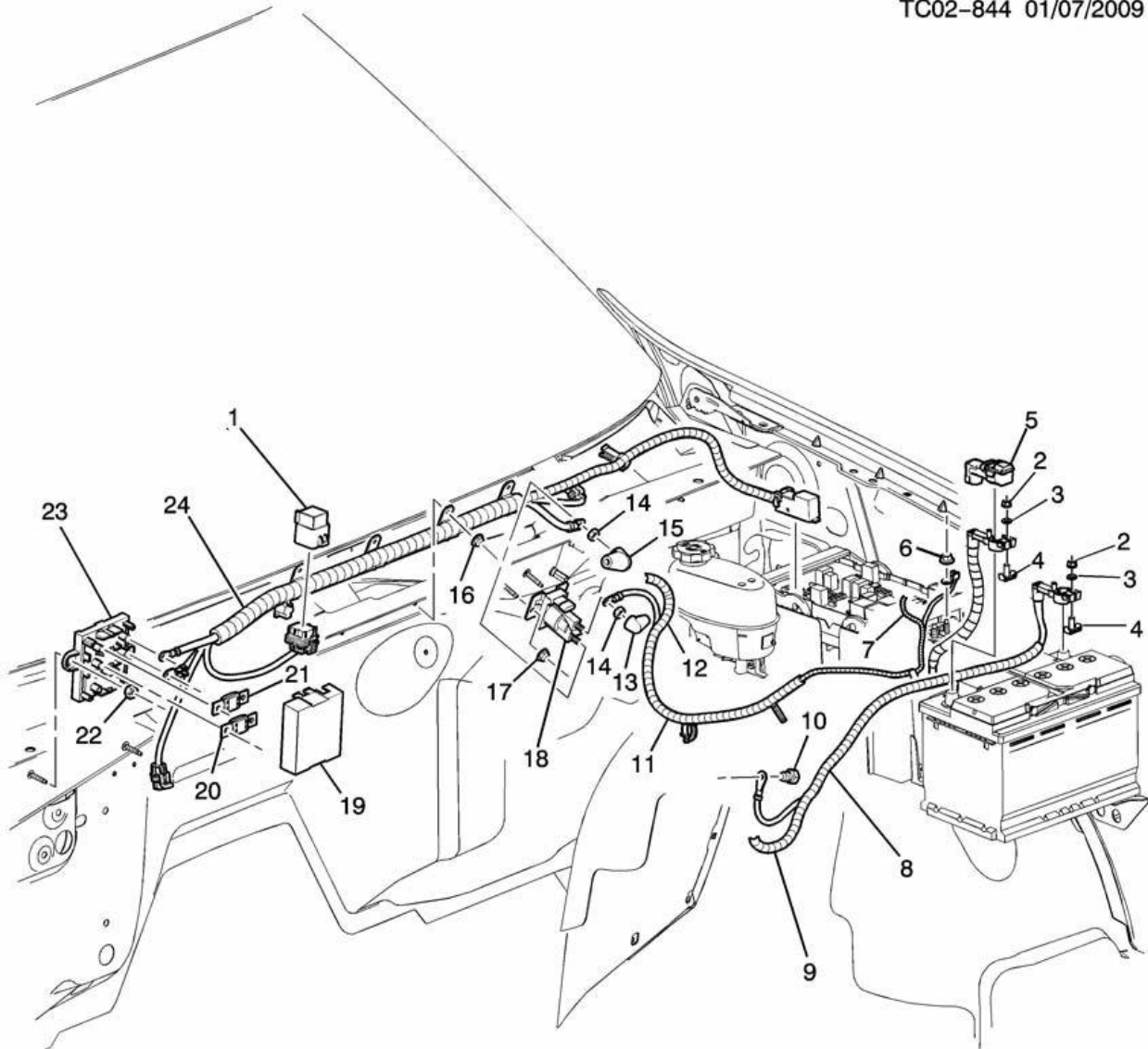


Auxiliary Battery Charging (TP2) on my 2009 Suburban 1500 4x4 LT.

The auxiliary battery provision (TP2) can be used to supply electrical power to additional equipment that the customer may choose to add, such as a trailer or if you have a pickup truck – a slide-in camper, without discharging the vehicles primary battery. The auxiliary battery relay closes when the engine is running, in order to allow the generator to charge the auxiliary battery. The relay opens when the engine is off, so that the accessories will not discharge the vehicles primary battery, which is used for engine starting. If the vehicle is equipped with an auxiliary battery, the relay will be located on the driver's side of the vehicle, on the hood hold open rod bracket.

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Here are the parts. There have been a few posts here with the parts for the GMT 900 but those lists are incomplete. This list is complete as of 8/2013.

25876897 -CABLE; NEGATIVE AUX BAT	Qty 1	RockAuto	\$27.79
22783692 -CABLE; POSITIVE AUX BAT	Qty 1	Amazon	\$50.01
25862351 -CABLE; POSITIVE Main to AUX BAT Harness	Qty 1	Amazon	\$86.68

21021808 -NUT – F-Nut, Brass for Mega Fuse Box connections \$0.53 each	Qty 6	eGMparts	3.18
11609411 -NUT – Psngr Air Bag Nut, Stud 1 and aux batt terms \$0.38 each	Qty 6	eGMparts	2.28
12135194 -RELAY; AUX BAT	Qty 1	RockAuto	\$20.79
15881616 -COVER; AUX BAT POS JUNCTION BLOCK, F-COVER	Qty 1	eGMparts	\$5.08
14005061 -RETAINER; AUX BAT HOLDOWN	Qty 1	RockAuto	\$2.21
11509853 -BOLT; AUX BAT HOLDOWN Bolt	Qty 1	eGMparts	\$0.74
19116352 -mega fuse holder	Qty 1	RockAuto	\$10.07
15305801 -Inline-To Battery Positive Cable Connector – Aux Camper Bat (TP2)	Qty 1	RockAuto	\$27.99
13525970 -terminal connectors qty2 (X2 connector, pins B4 and A5) 15304711-L	Qty 2	Mouser	\$0.25
12177251 -mega fuse 125 AMP for the aux battery relay Cable MEG125XP	Qty 1	Amazon	\$7.88
278-1223 -45-Ft. UL-Recognized Hookup Wire (18AWG)	Qty 1	Radio Shack	\$7.99
138212 -M10x1.5x25mm alt ground stud	Qty 1	Lowes	\$0.80

In addition to the parts above you'll want to get about 7 feet of 3/8" black wire loom and some black zip ties to make the "homemade" wire harness look like it was from the factory (Homemade harness: made from the 18 awg wire in three colors, 15305801 inline connector, and the 13525970 terminal connectors.) You will also need one 18 awg compatible terminal ring, to attach the ground wire to the body. Some heat shrink is appropriate here too.

For the nuts, you'll use more than two of the brass nuts, 21021808. These nuts are used to connect cables to the mega fuse holder and relay. You can take some from the factory fuse holder but I still ended up using six. The other two nuts, 11609411, are used on the battery cable posts to connect accessory wires.

Part 19116352 replaces the existing mega fuse holder near the passenger hood hinge. Verify that you have two fuses, 175 AMP for the cable to fuse box and 125 AMP for the aux battery relay cable. I reused the existing 175 AMP fuse. I put the aux battery cable on the second post on the right side with the 125 AMP fuse. The 125 amp mega fuse has a GM PN of 12177251. I put the alternator cable on the bottom right post and put the main fuse box wire over that one (with a brass nut separating the two) since that's how my suburban was from the factory.

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Fuse Holder, Device Usage (Gas and Diesel)

Fuse Holder , Device Usage (Gas)		
Device	Rating	Description
Mega Fuse	175A	Fuse Block - Underhood, Generator
Mega Fuse	125A	Auxiliary Battery Relay (TP2)
Mega Fuse	60A	Fuse Block - Mobile Radio (9L4)

Cable 25862351 replaces the factory cable for a non TP2 vehicle and has a straight connector rather than the factory cable's 90 degree connector. It also has a second battery cable that connects to 19116352. It's the cable that runs along the top of the firewall and comes with metal mounting brackets. You'll need four "speed nuts" to connect it although you can do like I did and reuse the plastic connectors from the factory cable. The main Battery cable connector for the underhood fuse box, X6 has two release tabs. After releasing the two tabs the connector is

rotated up from the cable end. Be careful not to break the tabs. The additional ring connector connects to the aux battery relay.

Cable 25876897 is the aux battery negative cable that grounds the aux battery directly to the engine block. I chose one of the threaded holes on the engine block near the alternator bracket for the ground using the M10x1.5x25 bolt.

Cable 22783692 is the aux battery positive cable. It connects up to the aux relay that you mount up near the fire wall on the hood prop bracket. It has a second wire that connects to the right hand "post" in the under hood junction box. It comes with a 40 amp inline fuse. Use nut 11609411 on post. Connect the charging wire for the trailer tow hitch to this post as well.

Normally, if you do not have the TP2 option a 40 amp fuse must be added to the under hood junction box in order for the charging wire to work which causes the trailer charging wire to use the main battery. By connecting the aux battery cable and removing the fuse (or not adding one if you haven't previously connected the trailer tow wire) you isolate the charging wire to the aux battery while the vehicle is not running.

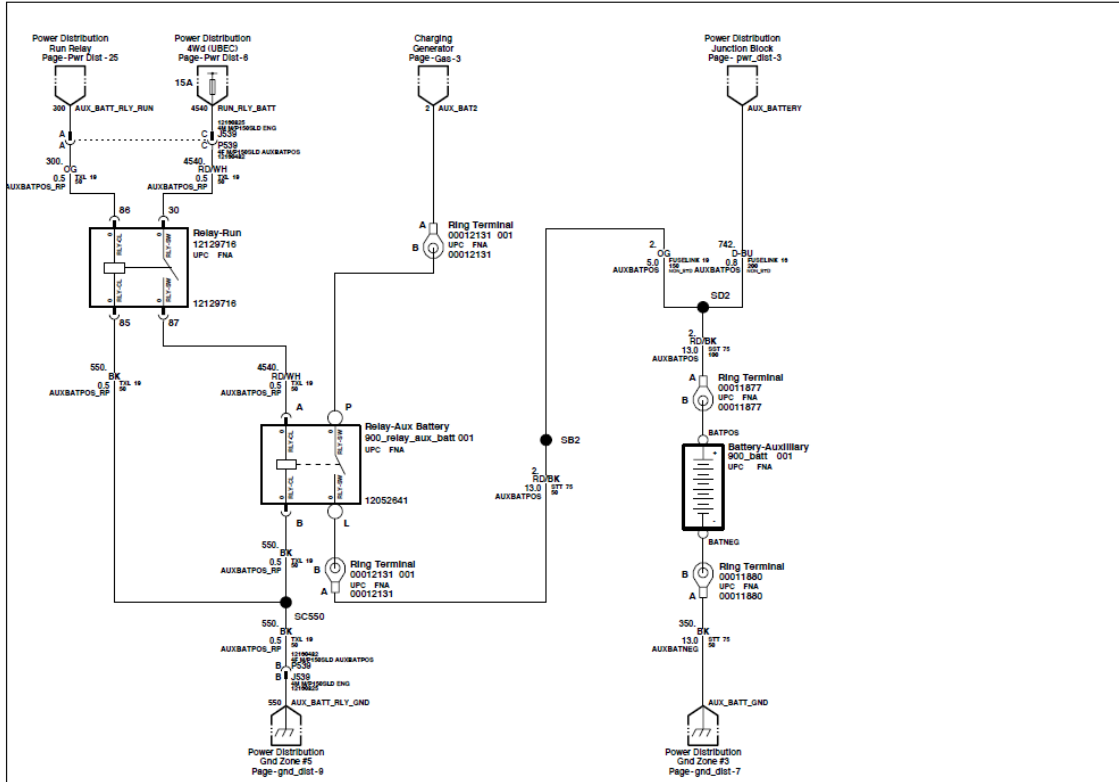
There is a plastic relay on cable 25862351 which has wires connected to the large relay (12135194) and a connection plug with three wires (red, orange and black). The plastic relay is used to activate relay 12135194 which is what isolates the aux battery from the charging system. I chose to use part 15305801 which is a four wire plastic connector that plugs into the relay connector. It has four white/grey wires. You'll need to match up the wire colors to the relay and remove the fourth wire. I ran three wires inside the 3/8" wire loom. I used the original factory wire clamps to run it next to the new main battery cable all the way to the fuse box. On the X2 connector of the under hood junction box, using terminal connectors (13525970), the red wire goes to A5 and the orange (green from radioshack) wire goes to B4. The black wire goes to ground on the vehicle. I grounded it directly to the engine block where I grounded cable 25876897.

Relay 12135194 must be mounted to the firewall of the vehicle. From the factory, the relay mounts just above and left of the chassis ground on the firewall. This is near the grounding strap from the hood to the firewall which is left of the brake booster. Non TP2 vehicles do not have studs from the factory to mount this relay. I chose to mount it on the bracket where the hood hold open rod is attached. I used self tapping screws to attach it to the bracket. The relay mounts with the plug on the top. Two brass nuts, 21021808, are used to connect the battery cables to the relay. The battery cable from the mega fuse holder goes to the bottom stud and the positive battery cable to the aux battery goes on the top stud. Make sure you have enough slack in the battery cable and relay plug before you mount the relay. You don't want to mount it only to find out the cables won't reach!

The aux battery positive and negative cables have threaded studs to connect accessories. Two nuts, 11609411, (not the brass ones) connect to these studs. I chose to add my accessories directly to the battery using these studs. You could easily connect accessories to the right post on the under hood fuse box where the trailer charge wire connects.

I spent about \$250 to do this, not including the battery, shipping, or sales tax. This installation uses nearly all factory parts and looks factory. You can hear the relay "clunk" when you turn the key to run. The auxiliary battery is isolated until the key is in the run position. It remains isolated when the ignition is cranking as well. This also lets me use the trailer tow wire in the 7-way connector as an aux battery connection at the rear end of my suburban without worrying about running down my starting battery. If your trailer has a battery connected to its 7 way wiring harness properly, this setup will charge that battery while driving, too.

Power External: Auxillary Battery



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Power-External: Auxillary Battery

PE05 Panel 1 of 1

ATP2

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GMT905
PRODUCTION
First Use: 2010 GMT900