Introduction / Comments:

The Following Instructions are for GM Express With and Without Aux Batteries

Note:

Read all instructions prior to installation. Review the Adrian Steel **GENERAL PRECAUTIONS PAGES (56638**) before attempting installation. Only personnel familiar with using electrical best practices should perform this install. Reference **ELECTRICAL BEST PRACTICES MANUAL (54479)** before attempting installation.

GM Express Inverter Instruction

Build Of Materials: All Kits

Kit 62494	KIT INV 0.7KW EX	Quantity
FAS0018	SCREW,HFLNG 1/4-20X.62 ZP	4
FAS0055	NUT,HEX NLK FLG 1/4-20 ZP	4
FAS0148	SCREW,FHP TEK 10-24X.5 ZN	1
FAS0329	SCREW,HH M8X1.25X25	1
FAS0552	WASHER,FLAT USS 5/16 SS	1
FAS0588	WASHER,LCK SPLIT 5/16 SS	1
FAS0682	SCREW,HH TEK 1/4-14X1 ZP	2
56904	INV TS12-700	1
61971	KIT CBL,0.7KW EX	1
62779	INS INV ALL INVS GM EX	1

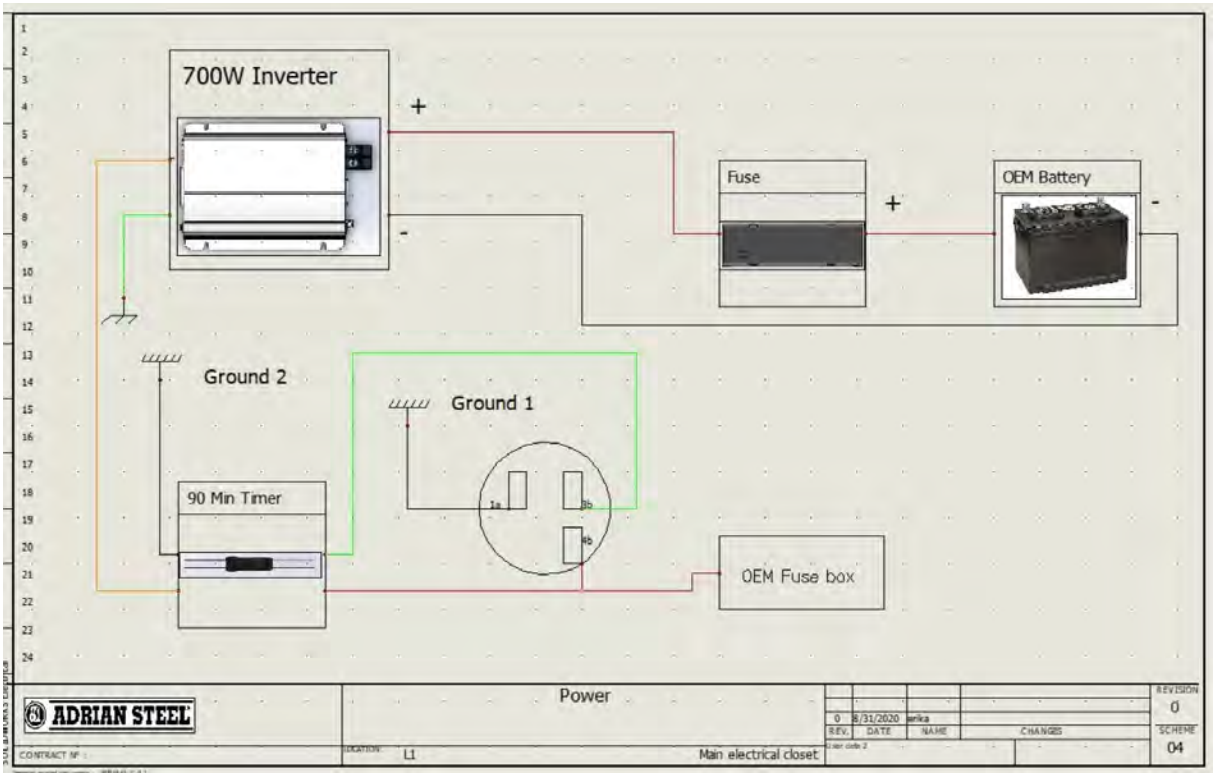
Kit 62495	KIT INV 1.0KW EX	Quantity
FAS0018	SCREW,HFLNG 1/4-20X.62 ZP	4
FAS0055	NUT,HEX NLK FLG 1/4-20 ZP	4
FAS0148	SCREW,FHP TEK 10-24X.5 ZN	1
FAS0329	SCREW,HH M8X1.25X25	1
FAS0552	WASHER,FLAT USS 5/16 SS	1
FAS0588	WASHER,LCK SPLIT 5/16 SS	1
FAS0682	SCREW,HH TEK 1/4-14X1 ZP	2
56903	INV TS12-1000	1
61972	KIT CBL,1.0KW EX	1
62779	INS INV ALL INVS GM EX	1

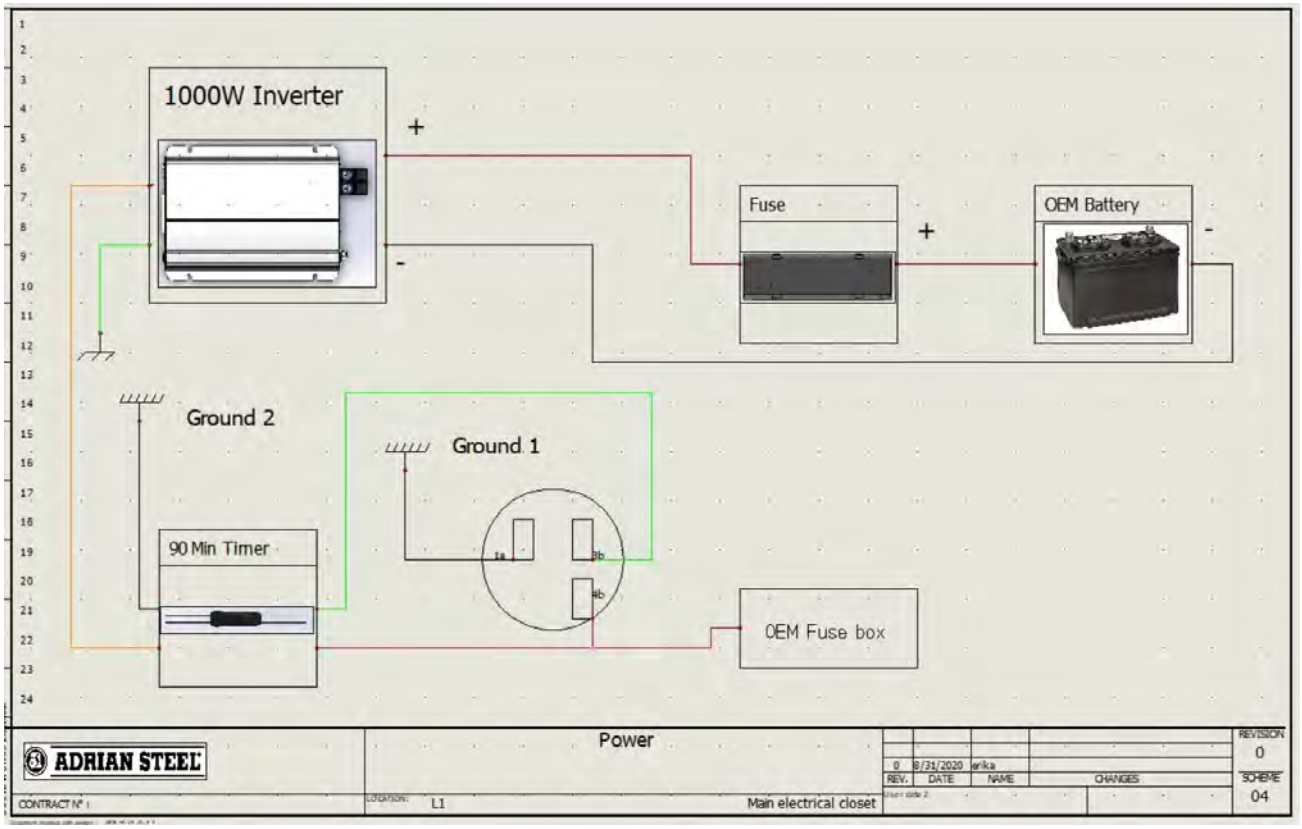
Build Of Materials: All Kits

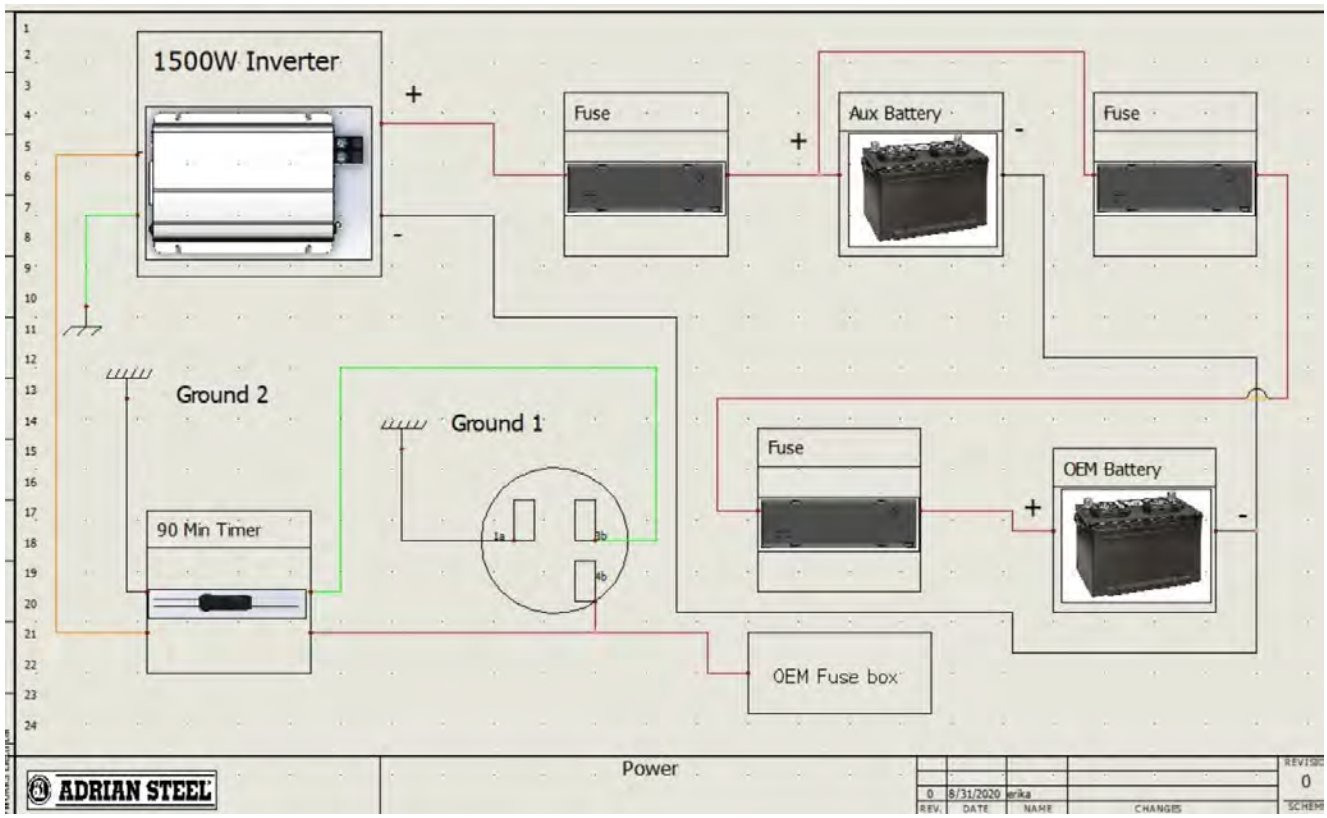
Kit 62496	KIT INV 1.5KW 1AUX EX	Quantity
FAS0018	SCREW,HFLNG 1/4-20X.62 ZP	4
FAS0025	SCREW,THP 10-24X.50 ZP	4
FAS0029	NUT,HEX NLK 10-24 ZP	4
FAS0048	SCREW,BHCS 5/16-18X2.0 ZN	4
FAS0055	NUT,HEX NLK FLG 1/4-20 ZP	4
FAS0091	PLUSNUT,5/16-18 PB DC	4
FAS0148	SCREW,FHP TEK 10-24X.5 ZN	1
FAS0329	SCREW,HH M8X1.25X25	1
FAS0552	WASHER,FLAT USS 5/16 SS	1
FAS0588	WASHER,LCK SPLIT 5/16 SS	1
FAS0682	SCREW,HH TEK 1/4-14X1 ZP	2
FAS0833	WASHER,CUP FLANGED 1.5"	4
03927-1	SPACER,FLR,1010,11/32 ZP	4
38352	BATTERY,AGM 92AH 12 VDC	1
56906	INV TS12-1500	1
61973	KIT CBL 1.5KW 1AUX EX	1
62779	INS INV ALL INVS GM EX	1

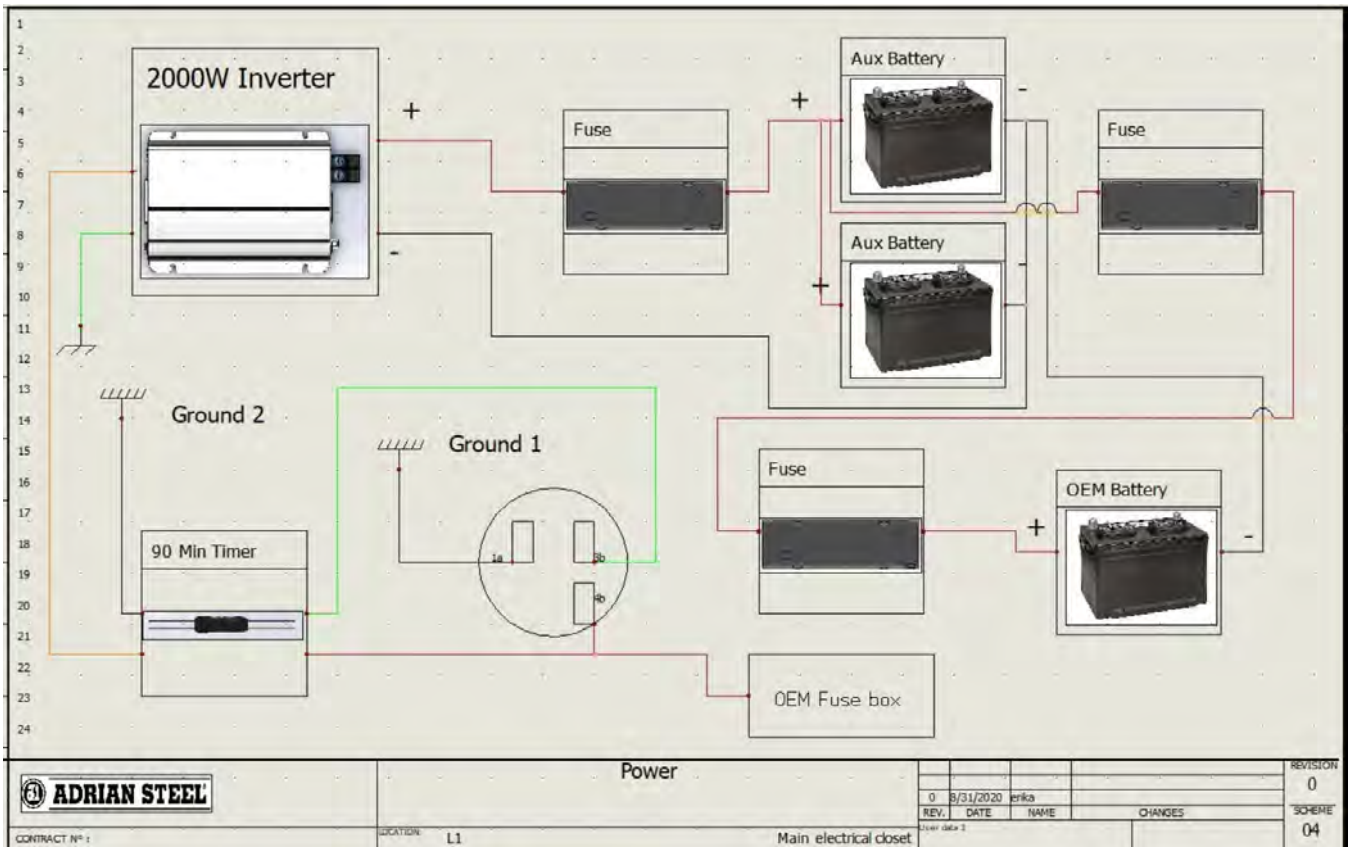
Kit 62497	KIT INV 2.0KW 2AUX EX	Quantity
FAS0018	SCREW,HFLNG 1/4-20X.62 ZP	4
FAS0025	SCREW,THP 10-24X.50 ZP	4
FAS0029	NUT,HEX NLK 10-24 ZP	4
FAS0048	SCREW,BHCS 5/16-18X2.0 ZN	8
FAS0055	NUT,HEX NLK FLG 1/4-20 ZP	4
FAS0091	PLUSNUT,5/16-18 PB DC	8
FAS0148	SCREW,FHP TEK 10-24X.5 ZN	1
FAS0329	SCREW,HH M8X1.25X25	1
FAS0552	WASHER,FLAT USS 5/16 SS	1
FAS0588	WASHER,LCK SPLIT 5/16 SS	1
FAS0682	SCREW,HH TEK 1/4-14X1 ZP	2
FAS0833	WASHER,CUP FLANGED 1.5"	8
03927-1	SPACER,FLR,1010,11/32 ZP	8
38352	BATTERY,AGM 92AH 12 VDC	2
56905	INV TS12-2000	1
62779	INS INV ALL INVS GM EX	1
62885	KIT CBL,2.0KW 2AUX EX	1

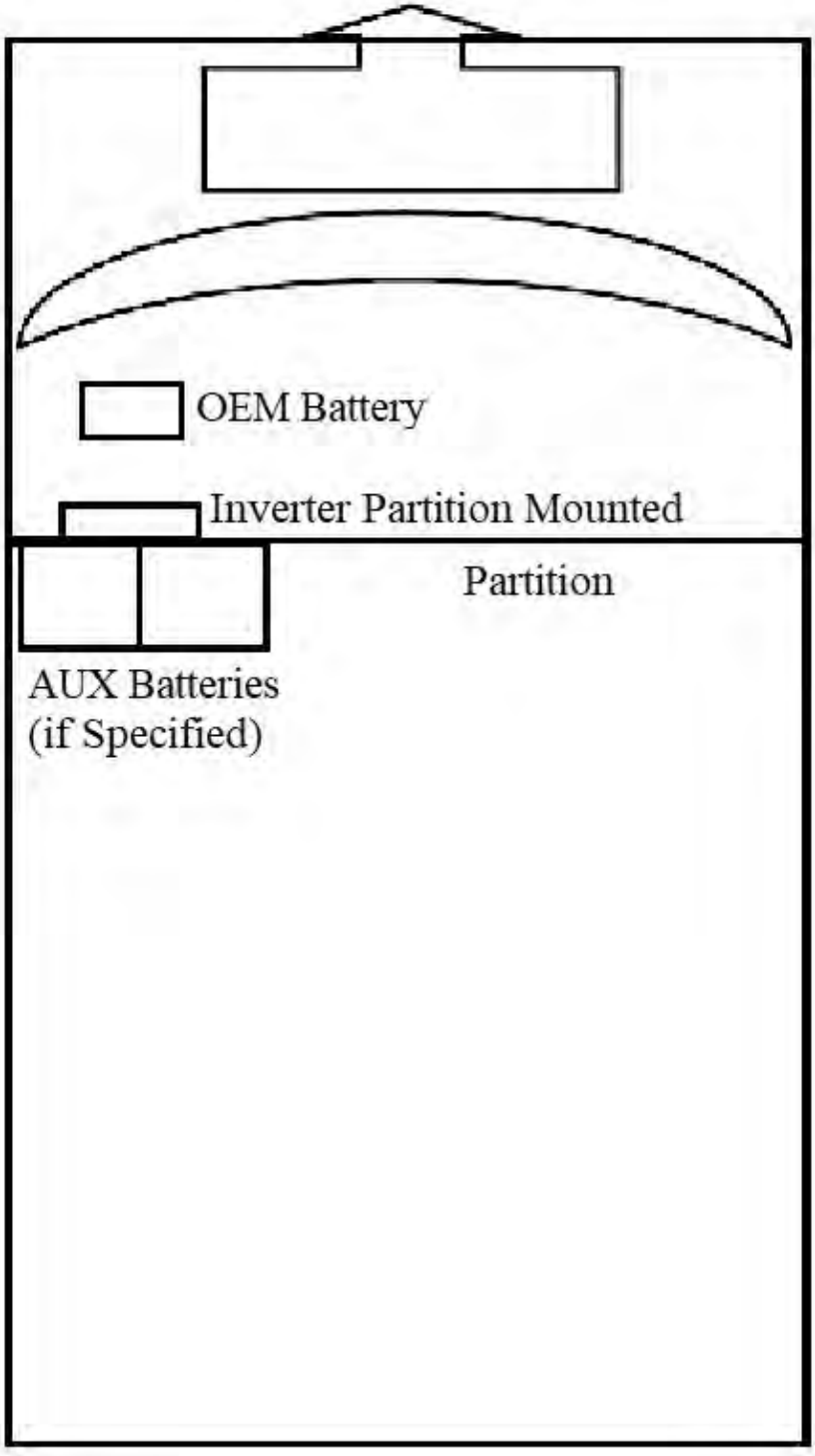
Review order drawings to determine inverter placement
Also if any power strip kits will need to be installed also and their placement.
NOTE: Not all applications will use all the components listed.






1500W Inverter
+
-
Fuse
+
Aux Battery
-
Fuse
Ground 2
Ground 1
90 Min Timer
1a
3b
4b
Fuse
OEM Battery
+
-
OEM Fuse box
ADRIAN STEEL
Power
0
8/31/2020
erika
REV.
DATE
NAME
CHANGES
REVISION
0
SCHEME


2000W Inverter
+
-
Fuse
+
Aux Battery
-
Aux Battery
-
Fuse
Ground 2
Ground 1
90 Min Timer
1a
3b
4b
Fuse
OEM Battery
+
-
OEM Fuse box
ADRIAN STEEL
Power
0
8/31/2020
erika
REV.
DATE
NAME
CHANGES
REVISION
0
SCHEME
04
CONTRACT N° :
LOCATION
L1
Main electrical closet


OEM Battery
Inverter Partition Mounted
Partition
AUX Batteries
(if Specified)

Step 1: Disconnect the negative OEM battery cable

Disconnect the negative battery cable from the battery

Step 2: V6 Only: Mount fuse holder and battery connections

Mount the fuse holder to the inner fender with (2) FAS0682

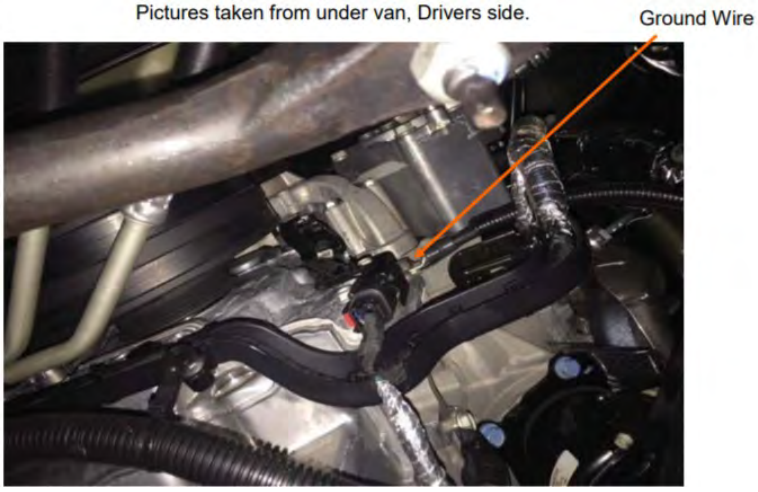
Remove the battery post screw on the OEM battery cable.
Install the battery post extender into the OEM positive cable.
Install the short red cable and red boot to the post extender using supplied nut and torque the battery connections to 13Nm +/- 2Nm
Route the cable to the inner post on the fuse holder.
Use a wire tie to secure the inverter cable to the battery cable

Connect the negative inverter battery cable and black boot to the hole in the block using
(1) FAS0329, (1) FAS0588, and (1) FAS0552.
Torque to 13Nm +/- 2Nm
Allow slack in the cable before securing with zip ties
Secure cabling to the OEM harness with zip ties

Note:
Do not install the fuse at this time

Tools required:
11/32” Socket / Wrench
7/16” Socket / Wrench

Pictures taken from under van, Drivers side.



Route the cables far away from the exhaust.
Secure with zip ties where possible.
Remember to allow for engine roll but make sure the wire will not be stretched or slacked enough to get pinched, cut, or have abrasion issues.

Keep the inverter wires away from the exhaust by routing along the frame, like seen in the picture.
Secure with zip ties

Note:
Negative cable will have movement and will need to be assessed for risks during engine roll events.

Tools required:
Wire Ties

Step 2: V8 Only: Mount fuse holder and battery connections

Mount the fuse holder to the inner fender with (2) FAS0682

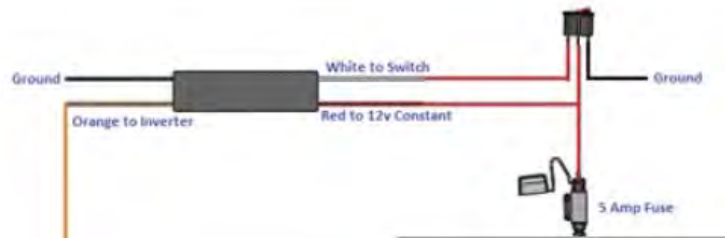
Remove the battery post screw on the OEM battery cable.
Install the battery post extender into the OEM positive cable.
Install the short red cable to the post extender using supplied nut and torque the battery connections to 13Nm +/- 2Nm
Route the cable to the inner post on the fuse holder.
Use a wire tie to secure the inverter cable to the battery cable

Note:
Do not install the fuse at this time

Tools required:
7/16” Socket / Wrench

Connect the negative inverter battery cable to the hole in the block using (1) FAS0329, (1) FAS0588, and (1) FAS0552.
Torque to 13Nm +/- 2Nm
Allow slack in the cable before securing with zip ties
Secure cabling to the OEM harness with zip ties

Step 3: Assemble the Switch And Timer



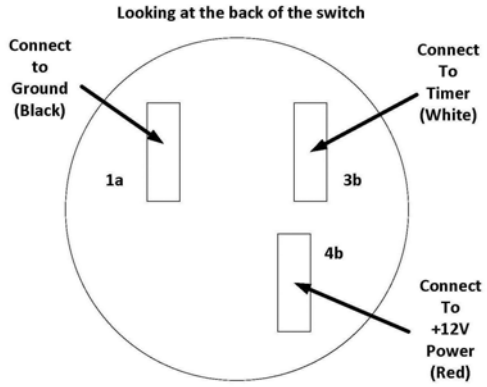
Locate the switch harness and Timer Assembly.
Assemble the VSS-TVMH90 to the switch harness
Connect the inline fuse wire with the ring terminal to the power stud under the drivers seat.
Use the supplied nut from the inverter cable kit

Notes:
Use caution when routing and attaching harness.
Avoid heat, sharp edges and moving parts.
Use the supplied nut from the inverter cable kit when connecting the power stud.

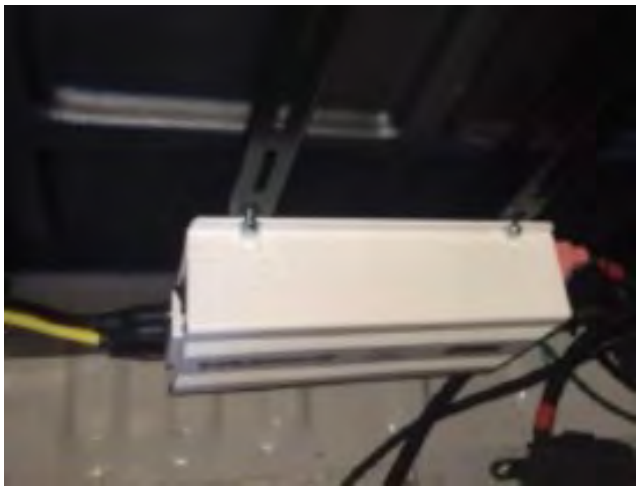
Tools required:
7/16” Socket / Wrench
Wire Strippers / Crimpers

Route the 3 wire switch harness to the shifter area in the dash panel.

Ground the switch ground ring terminal to a metal structure with
FAS0148 tek screw
Connect the switch to the harness and install the switch into the dash.
Route the orange wire back to the inverter



Step 4: Inverter mounting



Mount the inverter using fasteners
FAS0055 and FAS0018

Notes:
Inverter Placement may require mounting kit for composite partition.
Make sure outlets are facing center of vehicle

Tools required:
#2 Phillips Screwdriver

Step 5: Aux battery installation (If applicable)

Set the battery boxes in place on the floor
Drill 3/8” holes in the box and floor of the vehicle
Remove the box and enlarge the holes in the floor to 1/2”
Install plusnuts FAS0091
Enlarge the holes in floor matting to 1 inch
Place the nylon strap under each box
Place spacer 03927-1 in each hole
Secure the boxes with fasteners FAS0048 and cupped washers FAS0833

Step 6: Aux. Battery Cable Connections (If applicable)

Connect Aux. battery cables as shown in the schematic supplied at the beginning of the instructions.
Tighten battery connections to 8Nm
Mount fuse holders to the sides of the battery boxes using (2) FAS0025 Screws and (2) FAS0029 Nuts per holder.
Install fuses with supplied hardware to the fuse holders and tighten to 15Nm.

Note:
Use grommets at partition pass thrus
If the vehicle has rail system use spacers 03927-2

Tools required
Plusnut gun
3/8” drill
1/2” drill
1” hole saw (if applicable)

Step 7: Connect the inverter

Attach the cables to the inverter
Tighten the cables
Wiggle test then tighten again
Install the orange inverter wire
Install the green case ground and Attach its eyelet to the partition base bolt.
Check the dip switches are set as follows
1 UP
2 UP
3 UP
4 Down

Step 8: OEM battery final connections

Attach the red cables to the respected side of the fuse holder.
Install the fuse and tighten nuts to 15Nm.
Install the fuse cover.
Reconnect the OEM negative battery cable and tighten to 8Nm.

Step 9: Secure Wiring

Using the supplied cable ties make sure all wiring is secured and clear of sharp objects, moving parts, and heat sources.

Step 10: Verify Inverter Powers Up

Turn on the switch on the Inverter case to REM (remote).
Turn on the dash switch
Start the engine and verify the DC input LED on the inverter turns green.

Step 11: Test the Inverter Output

Ship Thru Operations:
Plug the load tester (part # 48340) into the inverter outlet.
Test the inverter as per the load tester instructions.

Step 12: Finalize and Cleanup

Review installation for any unsecure wiring watching out for sharp edges, moving parts, and heat sources.
Inspect all power connections for proper torque.
Install all trim removed in previous steps and battery covers on OEM and AUX batteries (if applicable).