Aux. Battery and Isolator

ISOLATOR MOUNTING

ALL YEAR VANAGONS

1. Disconnect ground from main battery under passenger seat
2. Remove driver seat
3. Remove driver seat belt buckle from seat pedestal
4. Release carpet from right side of seat pedestal just enough to run Wire #1 though the existing hole just below seat belt buckle mounting bolt (Fig.1)
   A. If your van is a '80-'81 camper, a weekender without a factory dual battery, or not a camper (any van without the relay in the driver's seat pedestal) route Wire #6 along with Wire #1.
   B. Run end labeled Wire #6 to ign switch toward front
5. Run any wires that exist in this hole through the supplied ¾" grommet along with Wire #1 (and Wire #6). (Fig.2)
   A. Seat grommet into hole after all wires have been run through grommet.
6. Run Wire #1(and Wire #6) through the hole from inside of seat pedestal and route along the side of pedestal between parking brake handle and pedestal.
7. Lift carpet and under laying insulation and route Wire #1 under both toward fuse box
8. Remove fuse box and mounting bracket
9. Remove lower steering column cover.
10. Route Wire #1 up and around to back side of fuse box
11. Leave these wires for now. You will hook them up later.
12. Mount isolator as per diagram using supplied ¼" self-tapping screws. (Diagram #1)
    A. If you have a relay under you driver seat remove the mounting screw and move the relay out of the way.
    B. Vanagons with a factory dual battery
       a. You will need to remove the metal panels surrounding the battery under the driver seat (Fig.3)
       b. Drill out the rivets securing the panels and remove.
13. Drill ½ " hole as shown in diagram. (Diagram #1)
    A. Check for wires or hoses under seat pedestal before drilling.
    B. You may have to oversize this hole slightly for the copper eyelet to fit though ½" hole.
14. Route Wire #9
    A. Starting from inside the driver's seat pedestal, insert the end labeled to main battery into ½" hole.
    B. Route Wire #9 over frame rail and along cross member toward main battery on passenger side. (Fig.4)
       a. For campers, route wire up though corrugated tube into main battery compartment. (Fig.5)
          - Run a small wire from inside the main battery compartment down to meet Wire # 9 under the van.
          - Tie the small wire to the ¼" eyelet and pull Wire #9 up into the main battery compartment.
       b. For non-campers you will need to drill another ½" hole under the passenger seat in front of the positive battery terminal.(as per diagram)(3" from inside wall, 1" from ledge) (Fig.6)
          - Check for wires or hoses under seat pedestal before drilling.
          - Run Wire #9 up through this hole
          - Install supplied grommet over ¼" copper eyelet
          - Seat grommet into ½" hole.
15. Remove M6 bolt from positive main battery pole.
16. Attach the ¼" copper eyelet along with the existing wires; using the M6 bolt, to positive battery pole.
    A. Arrange the eyelets for maximum clearance.
    B. If you have the plastic positive terminal cover reinstall it, if you don't, a piece of rubber or cardboard will work
17. Seat grommet into ½" hole under driver seat

Fig.1

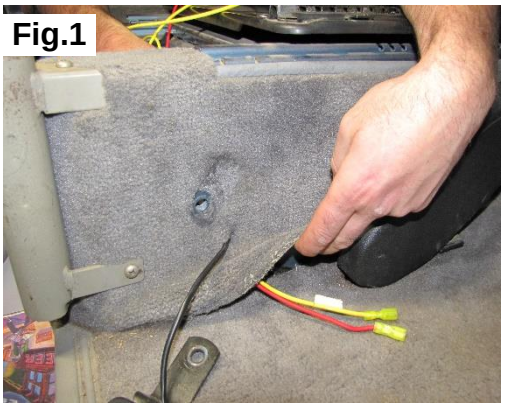


Fig.2

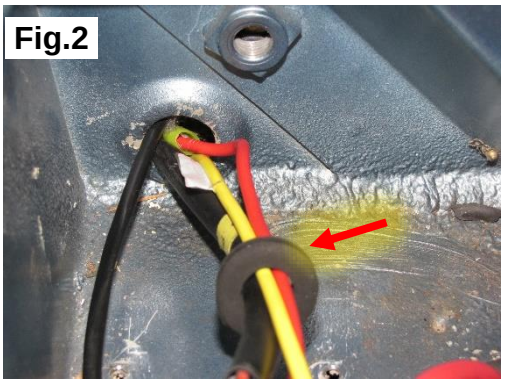
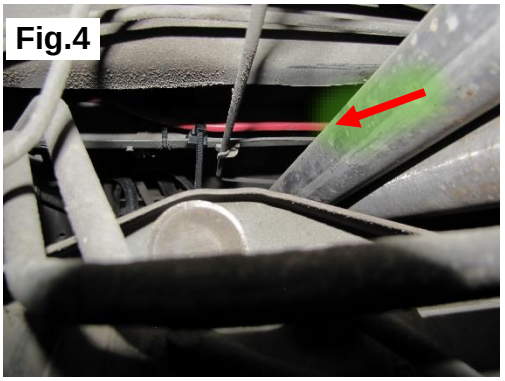


Fig.3

Fig.4



18. Attach other end of Wire #9 to the main battery pole on the isolator. (Fig.7)
    A. If you need to move Wire #9 through the grommet to remove or add a little slack spray the grommet and wire with soapy water.
        - This will help prevent the grommet from unseating.
19. Secure Wire #9 along cross member using supplied cable ties.
    A. The cable ties attach to front edge of the cross member.
    B. Seat grommet into hole after all wires have been run through grommet.
20. Mount both supplied fuse holders to the inside rear of compartment under driver seat using the supplied #10 self-tapping screws. (Fig.8)
    A. Mount fuse holder with black wires toward rear and the fuse holder with red wires just in front of it. (Diagram #2)
21. Connect Wire #4 to the bottom horizontal spade of the isolator.
22. Connect Wire #3 to chassis ground. (Diagram #2)
    A. If you have the relay under the driver's seat , use the relay mounting screw as your ground
    B. If you do not have the relay, use the supplied #10 self-tapping screw and attach the ground next to the fuse holders.
23. Connect Wire #2 and Wire #10 to the aux. pole of the isolator. (Diagram #2)
    A. Wire #10 will go to the auxiliary battery positive terminal.
    B. If you have the relay under the driver's seat, leave the nut on the auxiliary pole of isolator loose, an additional wire will be connected there later.
24. Now continue to the appropriate instructions for your Vanagon.

START FUNCTION CONNECTION

'80 – '81 CAMPER or NON-CAMPER ALL YEARS
(ANY VANAGON WITHOUT THE RELAY UNDER THE DRIVER'S SEAT)

1. Attach supplied yellow circuit tap to the red/black wire coming from ignition switch (Fig.9)
2. Connect Wire #6 to the circuit tap.
3. Connect the other end of Wire #6 to the vertical spade on the isolator.

Fig.9

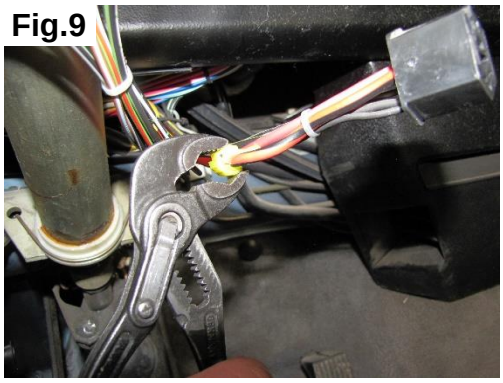


Fig.5

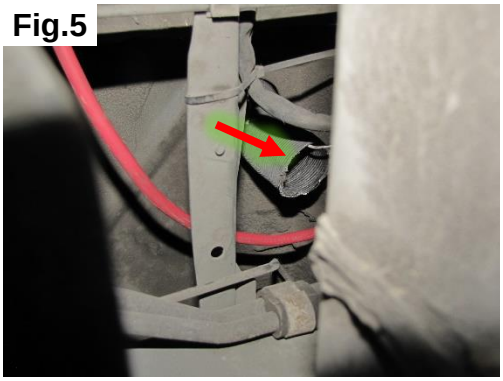


Fig.6

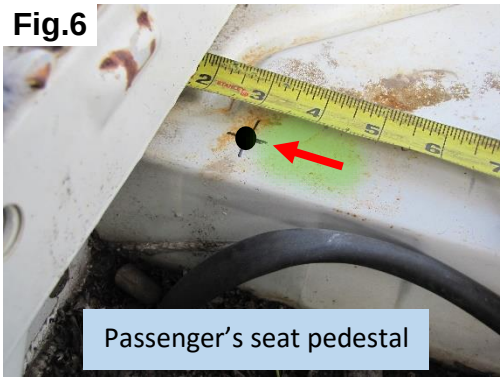


Fig.7

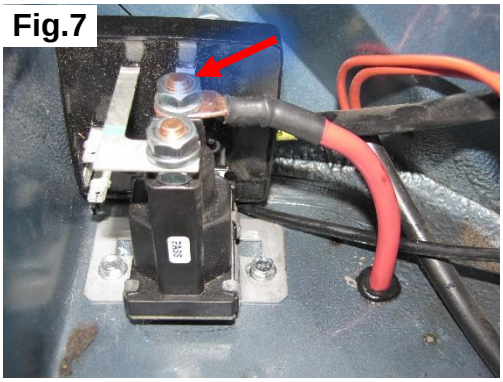
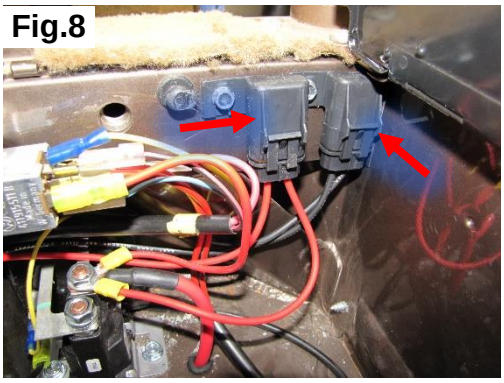


Fig.8



START FUNCTION CONNECTION

'82 – '91 CAMPERS

1. Remove the red/black wire from relay (terminal 85).
2. Connect the red/black wire to Wire #5 with piggyback connector.(Fig. 10)
3. Reconnect to the original location on relay.
4. Connect other end of Wire #5 to the vertical spade on the isolator

START FUNCTION CONNECTION

WEEKENDERS WITH A FACTORY DUAL BATTERY

1. Disconnect and remove relay from under driver seat
2. Connect the red/black wire to the vertical spade of the isolator
3. All other wires will be abandon.
   A. Make sure to insulate abandoned connectors with tape.

FUSE BOX REWIRE TO AUX. BATTERY

'80 – '85 ALL MODEL VANAGONS

1. Locate fuse #8 and disconnect the terminal with the larger gauge red wire and smaller gauge red/yellow. Both of these wires will be crimped into the same connector and connected to the top terminal of fuse #8 (Fig.11)
2. Also disconnect the smaller gauge red wires from the top terminal of fuse #8.
3. Cut only the larger gauge red wire from step 1, leaving the connector on the red/yellow wire. (the red/yellow wire is for your brake lights) (Fig.12)
4. Reconnect the red/yellow wire to top side of fuse #8.
5. Cut the connector off the red wire from step 2. (Fig. 13)
6. Strip about 3/8" of insulation off wires from step 3 & 5 and Wire #8 and insert to provided lever locking connector. (Fig.14)
7. Insert wires into supplied yellow quick connector that mates to Wire#1 and crimp.
8. Wire #8 will be used to rewire your radio to the auxiliary battery.
   - There are some variable to this step, depending on how your radio is currently wired, and how you would like it wired.
   - The stock Vanagon radio was wired directly to the main battery, meaning it will work with the key out of the ignition.
   - Many aftermarket radios were rewired to only work with the ignition switch on.
     1. If you have a stock radio and want it powered from the auxiliary battery
        A. Remove the radio
        B. Route Wire #8 to the radio opening
           a. Make sure your wire routing does not interfere with the heater control mechanism.
        C. Cut the red power wire about 6" away from the back of the radio
           a. Strip ¼" of insulation, insert into supplied blue butt connector, crimp and heat shrink.
           b. Tape the end of the wire cut from the radio
     2. If you have an aftermarket radio and want it powered from the auxiliary battery
        A. Refer to your radio manual for connections.
        B. Most aftermarket radios will have a red power wire and a yellow memory wire.
           a. If this is the case with your radio, cut the red and yellow wires from the radio. Typically there will be an in-line fuse on both the red and yellow wire, make sure you cut the wire so the fuse stays on the radio.
           b. Strip 3/8" of insulation from both wires twist together and insert into supplied blue butt connector, crimp and heat shrink.

Fig.10

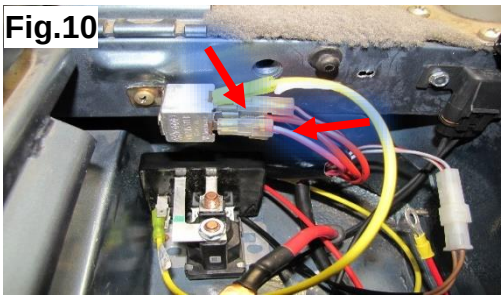


Fig.11

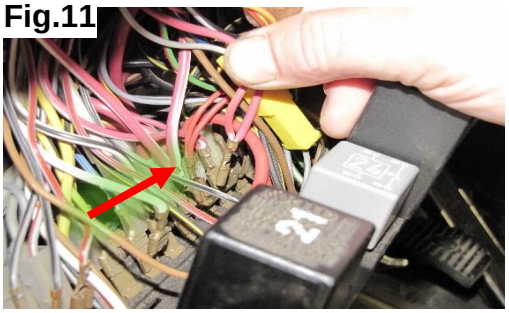


Fig.12

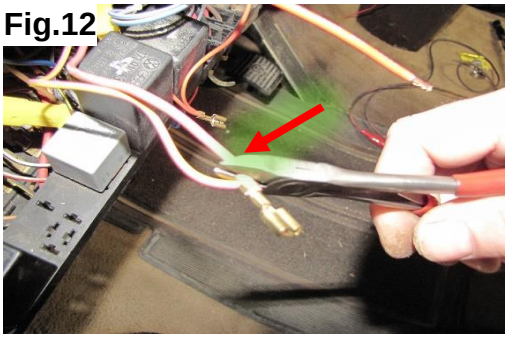


Fig.13

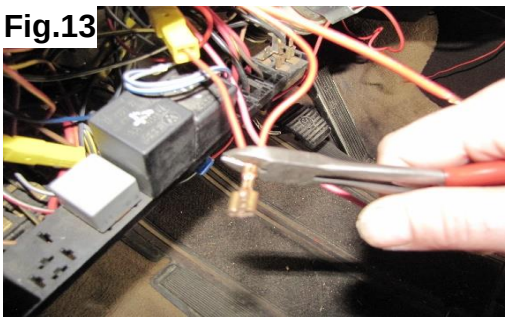
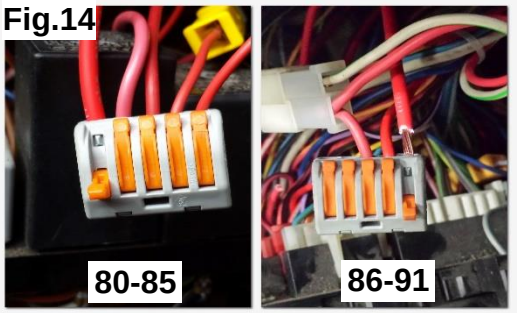


Fig.14



FUSE BOX RE-WIRE TO AUXILIARY BATTERY

'86 – '91 VANAGONS

1. Locate the red multi-pin connector B on the back of fuse box and disconnect it
2. Locate terminals B11 and B12. (Fig.15)
3. Cut these wires about 1" away from connector and wrap with tape or heat shrink.
   - The cut wires on the connector side will be abandoned. (Fig.16) Tape or heat shrink them
4. Insert wires cut from terminals B11 + B12 into lever lock connector along with wire #1 coming from auxiliary battery. (Fig. 17)
5. Connect Wire #1 to connector from step 4.

CAMPER EQUPMENT CONNECTION

'80 – '81 CAMPER

1. Connect Wire #7 to auxiliary pole of isolator and cut quick disconnect, strip wire and crimp supplied uninsulated female quick disconnect.
2. Connect in line fuse under driver's seat.

'82 – '91 CAMPER

1. Disconnect the red wire with plastic connector from the relay (terminal 87) and wrap with tape. (Fig. 18)
   A. You can use this wire to run another auxiliary circuit to the dash
      a. It will need to be disconnected from the fuse box and fused
2. Connect wire #7 to the now vacant terminal 87 on the relay
3. Connect the other end of wire #7 to the auxiliary pole of the isolator and tighten nut.

GROUND CONNECTIONS

Some vans have a threaded insert for the bolt (camper) where the battery tie down is, non-campers have the hole that you need to insert the bolt and use provided nuts (Diagram #2 next page). These holes are in the front of the driver's side battery cavity.

Fig.15

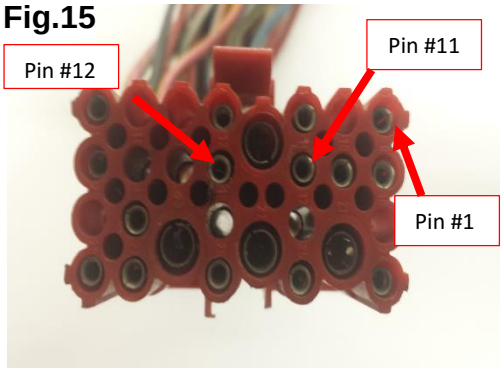


Fig.16

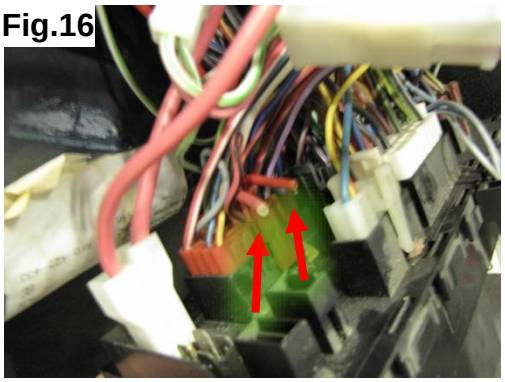


Fig.17

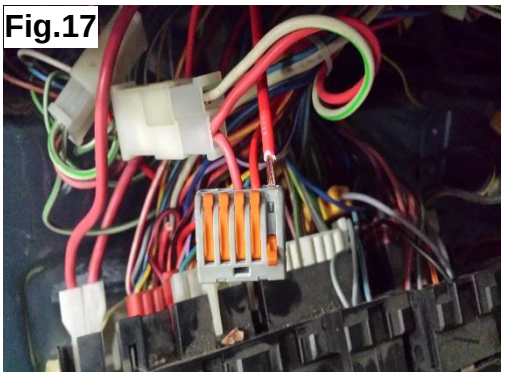


Fig.18

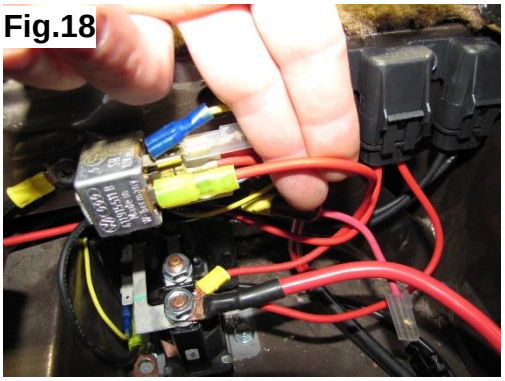


DIAGRAM #1 DRIVER'S SEAT PEDESTAL

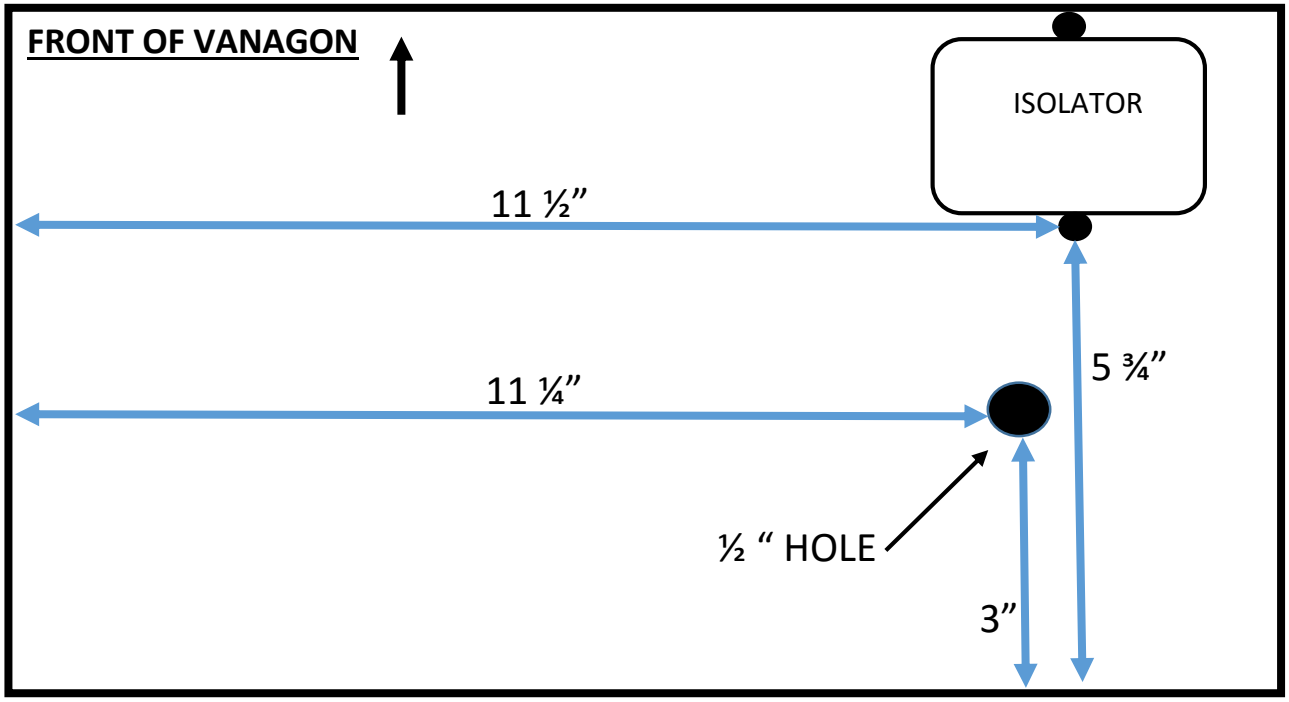


DIAGRAM #2 DRIVER'S SEAT PEDESTAL